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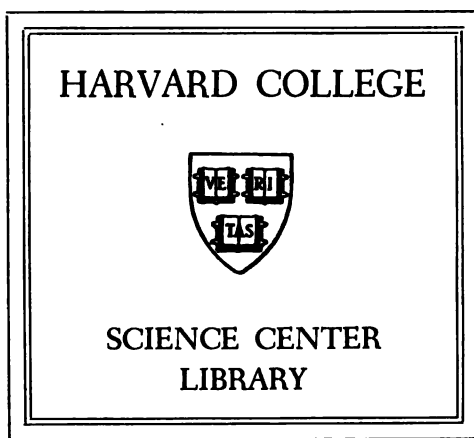
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ASSAYERS' & CHEMISTS' SUPPLIES



THE DENVER FIRE CLAY COMPANY

DENVER, COLORADO.

U. S. A.

ILLUSTRATED and PRICED CATALOGUE

—OF—

Assayers' and Chemists' Supplies

FOR SALE BY

THE DENVER FIRE CLAY CO.

Manufacturers, Importers,
Jobbers.

MUFFLES, CRUCIBLES, SCORIFIERS, FURNACES,
CHEMICALS, CHEMICAL AND PHYSICAL APPARATUS,
GENERAL LABORATORY SUPPLIES, ETC.

DENVER, COLO., U. S. A.

Store:
1742-46 Champa Street.

Factory:
3101-47 Blake Street.

...1905...

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Gratis

ESTABLISHED 1876.

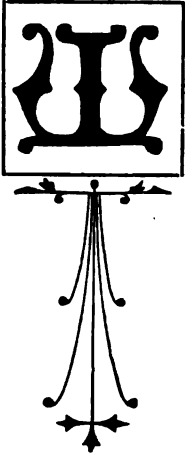
INCORPORATED 1880.

THE DENVER FIRE CLAY COMPANY.

W. W. CASE, President.

C. M. WOODS, Secretary.

H. O. BOSWORTH, Superintendent.



WE take pleasure in presenting this, our TENTH carefully revised Catalogue of Assayers' and Chemists' Supplies, to our friends, to whom we wish to extend our many thanks for their patronage in the past and to ask that we may continue to be so favored.

Many new features have been added to our list since our last Catalogue, which we think will prove to be of great convenience to the Assayer and Chemist. Among them we would call especial attention to the complete line of GASOLINE FURNACES, Crucible and Muffle, now manufactured by us, a detailed description of which will be found on pages 148-151.

Our very large and well selected stock of Assayers' and Chemists' Supplies, Chemical Glassware, Chemicals, School Apparatus, etc. (the most complete in the West), which we are constantly increasing, enables us to fill all orders complete, promptly and accurately. Being large direct importers as well as manufacturers, we are confident we can meet any competition where quality as well as price is considered.

The tables of reference, which have been arranged with great care, we believe will be found interesting and useful.

Your attention is particularly directed to the high quality of the goods of our own manufacture, Muffles, Crucibles, Scorifiers, Furnaces, etc., absolutely C. P. Test Lead, Litharge, Boneash, Borax Glass, etc., etc. If you are already using our goods, you know their superiority; if not, a trial will convince you they are the best.

It is our aim at all times to please our customers and in case of dissatisfaction with our goods, for any cause, we appreciate it as a favor if we are promptly advised.

Soliciting your inquiries and orders, we remain,

Yours very truly,

THE DENVER FIRE CLAY COMPANY.

September, 1905.

DUTY-FREE IMPORTATIONS.

By authority of Act of Congress, June 22, 1874, all universities, colleges, schools, literary, scientific or religious societies of the United States are permitted to import, free of duty, instruments, books, charts, etc., to be used in connection with the educational exercises of the institution for which they are ordered. We have made special arrangements in this branch of our business and shall be pleased to receive orders, which we fill at the original price of European dealers.

EXPORT ORDERS.

We solicit Export Orders, being thoroughly familiar with all customs regulations. Our long experience in this business enables us to prepare the necessary documents accurately, insuring our customers the quickest possible service.

SHIPPING.

Unless definite shipping instructions are given, we will use our own judgment, forwarding by cheapest or quickest route.

MAILING.

Acids, explosives, gasoline and other highly inflammable substances are prohibited from the mails. It is not advisable to mail fragile or delicate articles, owing to the risk of breakage.

PACKING.

All goods are packed with the greatest care by experienced packers and every precaution is taken to prevent breakage in transit. We cannot, however, assume responsibility for safe transportation. Our liability ceases when goods are received for in good condition by the carrier.

TERMS.

Prices in this catalogue supersede all former prices, but are necessarily subject to change without notice, as market fluctuates.

Orders from parties unknown to us should be accompanied by cash or satisfactory references.

Goods will be sent C. O. D. if requested, but only if remittance is made sufficient to cover transportation charges both ways.

REFERENCE TABLES AND INFORMATION.

COMPARISONS AND EQUIVALENTS.

The U. S. Standard of weight is Troy pound, and was copied in 1827 from the imperial Troy pound of England for the use of the United States Mint, and there deposited. It is standard in air at 62° Fahr., the barometer at 30 inches.

Troy Weight.

24 grains= 1 dwt.
480 " = 20 " = 1 oz.
5760 " = 240 " = 12 " = 1 lb.=22.816 cub. in. of distilled water at 62° Fahr.

Avoirdupois Weight.

1 drachm= 27.34375 grains Troy.
16 " = 1 oz.= 437.5 " "
256 " = 16 " = 1 lb.= 1.2153 lb. Troy.
6400 " = 400 " = 25 " = 1 quarter.
25600 " = 1600 " = 100 " = 4 " = 1 cwt.
512000 " = 32000 " = 2000 " = 80 " = 20 " = 1 ton.

Apothecaries' Weight.

20 grains= 1 scruple.
60 " = 3 " = 1 drachm
480 " = 24 " = 8 " = 1 oz.
5760 " = 288 " = 96 " = 12 " = 1 lb.

Metric, or French Weights.

	Grammes	Troy Grs.				
1 Milligramme. =	.001=	.01543				
1 Centigramme =	.01 =	.15432	Troy	Troy	Avoir.	
1 Decigramme. =	.1 =	1.5432	Ozs.	Lbs.	Ozs.	Avoir. Lbs.
1 Gramme. . . . =	1.	=15.432	= .032=	.00267=	.03528=	.0022047
1 Decagramme. =	10.	=.....	.321=	.02679=	.3528 =	.022046
1 Hectogramme =	100.	=.....	3.215=	.26792=	3.52758=	.22046
1 Kilogramme . =	1000.	=.....	32.150=	2.6792 =	35.2758 =	2.2046
1 Myriagramme =	10000.	=.....		26.792 =	=.....	22.046
1 Quintal . . . =	100000.	=.....		267.92 =	=.....	220.46
1 Tonneau . . . =	1000000.	=.....		2679.2 =	=.....	2204.6

Assay Ton Weights.

The Assay Ton Weights is a system made up from a comparison of the Avoirdupois, Troy and Gramme Weights, and will be found extremely simple and useful, saving a vast amount of calculation and labor.

The unit of the system is the assay ton=29.166 grammes. Its derivation will be seen at a glance.

1 lb. Avoirdupois=7,000 Troy grains.

2,000 lbs.=1 ton.

2,000×7,000=14,000,000 Troy grains, in one ton Avoirdupois.

480 Troy grains=1 oz. Troy.

14,000,000÷480=29,166 Troy oz. in 2,000 lbs. Avoirdupois.

There are 29,166 milligrammes in one assay ton (A. T.); hence

2,000 lbs. is to 1 A. T., as 1 oz. Troy is to 1 milligramme.

Therefore, if 1 A. T. of ore assays 1 milligramme of gold or silver, the ton contains one ounce Troy.

Long Measure.

The standard unit of the United States and British linear measure is the yard. It was intended to be exactly the same for both countries, but in reality the United States' yard exceeds the British standard by .00087 of an inch. The actual standard of length for the United States is a brass scale 42 inches long prepared for the Coast Survey and deposited in the office of Weights and Measure at the U. S. Treasury Department in Washington. The yard is between the 27th and the 63d inches of this scale. The temperature at which the scale is designed to be standard, and at which it is used in the U. S. Coast Survey, is 62° Fahrenheit

Inches	Foot	Yard	Fathom	Perch	Furlong	Mile	League
12=	1.						
36=	3.	1.					
72=	6.	2.	1.				
198=	16.5=	5.5=	2.75=	1			
7920=	660.	220.	110.	40	1		
63360=	5280.	1760.	880.	320	8	1	
190080=	15840.	5280.	2640.	960	24	3	1

Metric, or French Linear Measure.

	Metre	U. S. Ins.	Feet	Yards	Miles
1 Millimetre.....	.001=	.03937=	.00328		
1 Centimetre.....	.01 =	.3937 =	.0328		
1 Decimetre.....	.1 =	3.937 =	.32808=	.10936	
1 Metre.....	1.	= 39.3704 =	3.2808 =	1.0936	
1 Decametre.....	10.	=393.704 =	32.808 =	10.936	
1 Hectometre.....	100.	.....	328.08 =	109.36 =	.0621375
1 Kilometre.....	1000.	.....	3280.8 =	1093.6 =	.621375
1 Myriametre.....	10000.	.....	32808.	=10936.	= 6.21375

Solid Measure.

1,728 cubic inches= 1 cubic foot.
46,656 cubic inches=27 cubic feet=1 cubic yard.

Metric, or French Cubic or Solid Measure.

	Cu. Metres	U. S. Cu. Ins.	U. S. Cu. Ft.	U. S. Cu. Yds.
1 Cubic Centimetre....	.000001 =	.061025		
1 Cubic Decimetre.....	.001 =	61.025		
1 Centistere.....	.01 =	610.25 =	353156	13080
1 Decistere.....	.1 =	6102.5 =	353156 =	13080
1 Stere.....	1.	.....	35.3156 =	1.3080
1 Decastere.....	10.	.....	353.156 =	13.080
1 Hectostere.....	100.	.....	3531.56 =	130.80

Apothecaries' Measure.

Gallon	Pints	Ounces	Drams	Mins.	Cu. Ins.	Grains	Cu. C. M.
1	= 8	= 128	= 1024	= 61440	=231.	=58328.886	=3785.00
	1	= 16	= 128	= 7680	= 28.875	= 7291.1107	= 473.11
		1	= 8	= 480	= 1.8047	= 455.6944	= 29.57
			1	= 60	= 0.2256	= 56.9618	= 3.70

METRIC, OR FRENCH DRY AND LIQUID MEASURE.

	Litres.	U. S. Cu. Ins.	U. S.
1 Millilitre.....=	.001=	.061 =	.00845 gill.
1 Centilitre=	.01 =	.61 =	.0018 pint (dry.)
1 Decilitre.....=	.1 =	6.1 =	.0845 gill.
1 Litre=	1. =	61.02 =	.018 pint (dry.)
1 Decalitre.=	10. =	610.16 =	.845 gill=.2113 pints.
1 Hectolitre.=	100. =	3.531 =	.18 pint (dry.)
1 Kilolitre=	1000. =	35.31 =	2.113 pints=1.056 quarts.
1 Myrialitre.=	10000. =	353.1 =	1.8 pints=.908 q.=.1135 p.
			2.641 gallons.
			9.08 q.=1.135 p.=.283 b.
			26.417 gallons.
			2.837 bushels.
			264.17 gallons.
			28.378 bushels.
			2641.7 gallons.
			283.7 bushels.

THERMOMETER SCALES.

Celsius or Centigrade symbol, "C." Fahrenheit symbol, "F." Reaumur symbol, "R."

The zero of the Scales of Reaumur and Centigrade is freezing point of water, marked in each case 0°, while the intervening space, up to the boiling point of water, is divided in the former case into 80°, and in the latter to 100°.

In the Fahrenheit Scale the freezing point is represented by 32° and the boiling point is represented by 212°, the intervening space being divided into 180°, which admits of extension above and below the points named, a good thermometer being available for temperature up to 620° Fahrenheit.

The use of the Reaumur Scale is confined exclusively to Germany and Russia, while the Centigrade Scale is used throughout the rest of Europe. The Fahrenheit Scale is confined to England and her colonies and the United States of America.

A variety of circumstances arise in which it becomes necessary to convert readings from one scale into those of the others, in which case the following rules are to be observed:

1. To convert Centigrade degrees into degrees of Fahrenheit, multiply by 9, divide the product by 5 and add 32.
2. To convert Fahrenheit degrees into degrees of Centigrade, subtract 32, multiply by 5 and divide by 9.
3. To convert Reaumur degrees into degrees of Fahrenheit, multiply by 9, divide by 4 and add 32.
4. To convert Fahrenheit degrees into degrees of Reaumur, subtract 32, multiply by 4 and divide by 9.
5. To convert Reaumur degrees into degrees of Centigrade, multiply by 5 and divide by 4.
6. To convert Centigrade degrees into degrees of Reaumur, multiply by 4 and divide by 5.

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School Sets of Chemical Apparatus.

Collection of Minerals, Models and Charts.

Scientific Books.

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Fire Brick, Tile and Fire Clay Material.

PART V— — — — — Pages 297 to 333

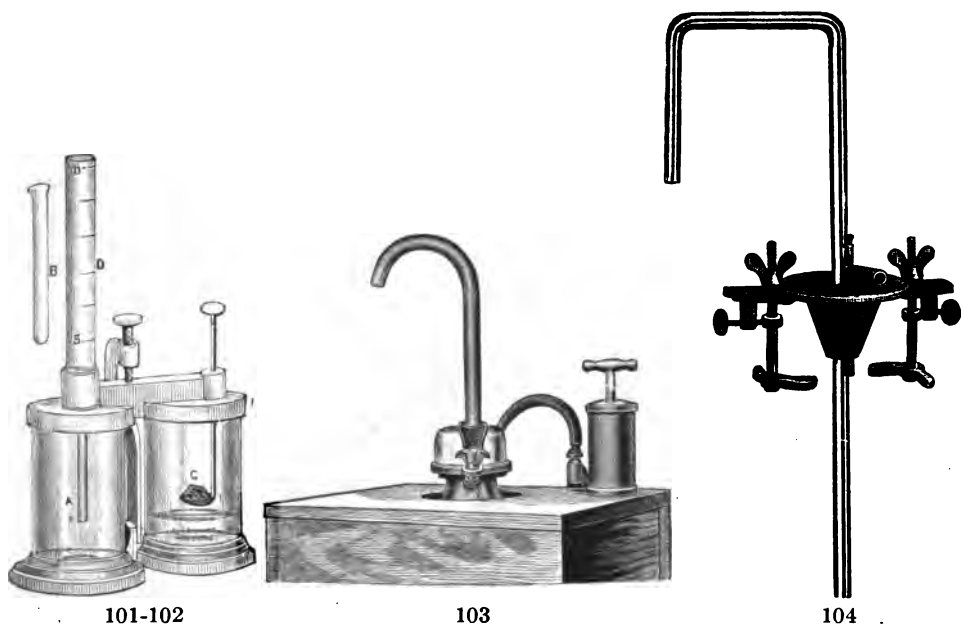
Chemicals and Reagents.

PART VI— — — — — See Special List.

Physical Apparatus.

The Denver Fire Clay Co.

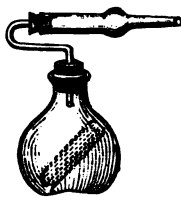
Illustrated and Priced Catalogue



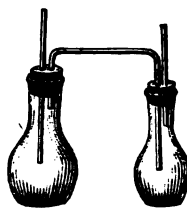
No.		
101	Acidometer, Twitchell's, for determining the strength of all kinds of vinegar. Directions with each instrument.	Net \$12.00
102	Acidometer, Twitchell's, for wine, with directions.	Net 12.00
103	Acid Pumps, for drawing acids or other liquids from carboys, very substantial and effective, for factory use	Net 12.00
104	Acid Pumps, latest form, for laboratory use	4.00
	Foot Blower, to operate the same	4.00
105	Air Tester, Wolpert's, latest construction, pocket instrument, for determining Carbonic Acid in school rooms, factories, mines, etc.	5.00
106	Alembic Salleron, or Monitor Still, for determining the alcoholic percentage in spirituous liquids; made of copper, see Fig. 2021, complete in box.	10.00



111



112



113



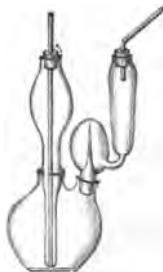
114



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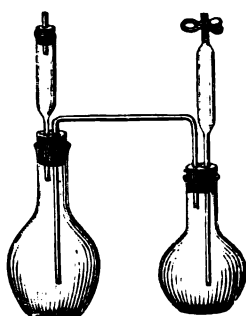
117a



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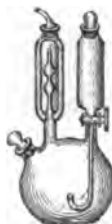
119



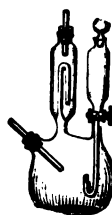
120



121



122



123



124

No.		
111	Alkalimeter, Bunsen's	\$1.00
112	Alkalimeter, Fresenius'60
113	Alkalimeter, Fresenius & Will's .....	.45
114	Alkalimeter, Fritzsche's, for minerals .....	.50
115	Alkalimeter, Geissler's, with ground joints	1.40
116	Alkalimeter, Geissler's, with stopcock	2.00
117	Alkalimeter, Geissler & Erdmann's	1.50
117a	Alkalimeter, Geissler's, improved form, for one acid.	1.75
117b	Alkalimeter, Geissler's, improved form, for two acids.	2.00
118	Alkalimeter, Kipp's, with stopcock	1.80
119	Alkalimeter, Mohr's, with pinchcock .....	.75
120	Alkalimeter, Mohr's, for carbonic acid determinations	1.00
121	Alkalimeter, Mohr's, with stopcock	2.50
122	Alkalimeter, Rohrbeck's, with stopcock	1.80
123	Alkalimeter, Schroedter's, with stopcock	1.80
124	Alkalimeter, Schaffner's, on foot .....	.60



130—No. 3111



130—No. 3131



130—No. 3139

No.

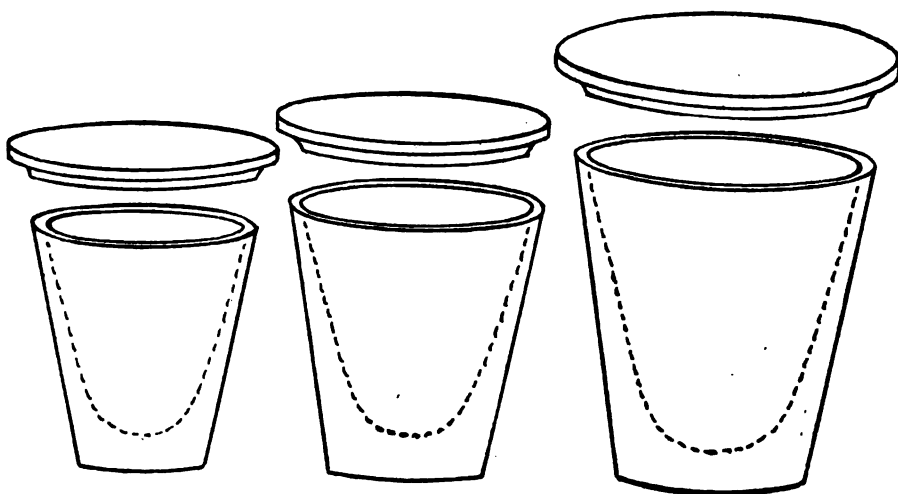
130

Anemometers or Air Meters, for the measurement of air currents through mines, tunnels, sewers, etc., and the ventilation of hospitals, schools, public buildings, etc.

No.

3110	Portable Air Meter, 2 dials, reading to 1,000 feet.....	\$22.50
3111	Portable Air Meter, 6 dials, reading to 10,000,000 feet.....	25.00
	Sand Glass timers attached, extra.....	3.75
3131	Biram's, 4 inches, 2 dials, reading to 1,000 feet.....	21.50
3132	Biram's, 4 inches, 6 dials, reading to 100,000 feet.....	24.00
3139	Biram's, pocket size, 2 dials, reading to 1,000 feet.....	35.00

All the above are complete in cases.



131 to 134



135



141



142



143

No.

- 131 **Annealing Cups, D. F. C. Co., our own make.** These are guaranteed superior in durability, and much whiter and smoother than the Battersea. Largely used for silica fusions.

No.	0	1	2
Size	$1\frac{1}{2} \times 1\frac{1}{2}$	$1\frac{1}{2} \times 1\frac{1}{2}$	$1\frac{1}{2} \times 1\frac{1}{2}$ in.
Doz.	\$1.00	1.00	1.00

- 132 **Annealing Cup Covers.** Doz. **.25** **.25** **.25**

- 133 **Annealing Cups, Battersea.**

No.	A	B	C
Dia.	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$ in.
Doz.	\$1.05	1.05	1.05

- 134 **Annealing Cup Covers.** Doz. **.30** **.30** **.30**

Annealing Cups, Porcelain. See Crucibles, Nos. 716 and 718.

- 135 **Annealing Cup Trays, of fire clay; very convenient for handling Annealing Cups while in muffles** **\$0.75**

- 136 **Annealing Cup Trays, of tinned iron, with detachable wood handle, made to hold 12 Porcelain cups, of either R. B. No. 0 or 00, Cat. No. 716, or R. M. No. 7, Cat. No. 718; can be made to order for other sizes.** **.75**

- 141 **Anvil, Plattner's, $1\frac{1}{2} \times 1\frac{1}{2}$ in., for blow pipe work; polished steel** **.50**

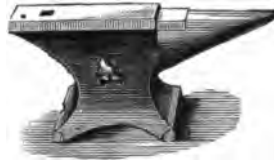
- 142 **Anvil, for Lead Buttons, 6x6 in., planed on one side** **1.00**

- 143 **Anvil, square, solid steel, mirror polished face.**

Size	2	$2\frac{1}{2}$	3 in sq.
Each	\$1.30	1.75	2.00



144

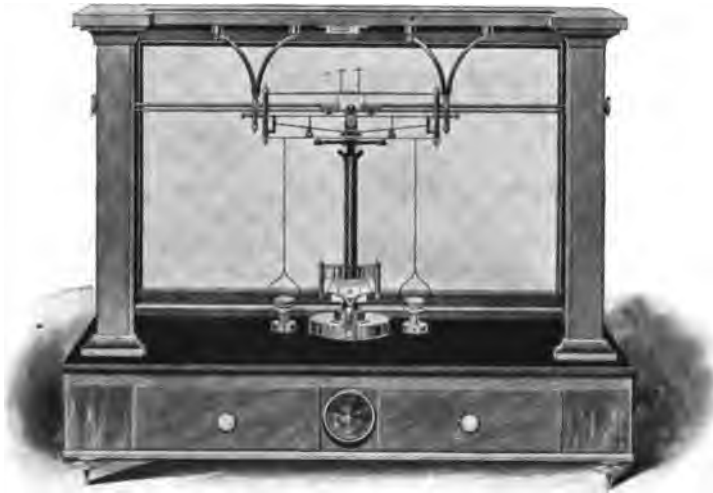


145

No.

144	Anvil, square, with point, solid steel, mirror polished face.					
	Weight	1	2	3	4	6 lbs.
	Face	1½	1¾	2¼	2¾	3 in. sq.
	Each	\$0.75	1.25	1.75	2.50	3.50
145	Anvil, regular shape, steel face, for use on table.					
	Weight	5	10	15	20	30
	Face	4	5	5½	6¼	7
						50 lbs.
						8½ in.
	Each	\$2.00	2.75	3.25	4.00	4.50
						6.00
151	Asbestos Board, fire and acid proof, in sheets 40x40 in. from 1-16 to 1-2 in. thick.					
						lb. \$0.15
	In full sheets.					lb. .12
	Approximate weight per sheet 40x40 in.:					
	Thickness	1-16	¼	3-16	½	¾
						1 in.
	Weight	4	8	12	15	25
						30 lbs.
151a	Asbestos Board, cut in squares, 1-16 in. thick.					
	Size	4x4	5x5	6x6 in.		
	Dozen	\$0.20	.30	.40		
152	Asbestos Cloth, unaffected by acids, fire, etc.					
	Size	Fine	Medium	Heavy		
	1 sq. ft.	3½	4½	6½ oz.		
	Width	36	36	36 in.		
	Yard	\$2.25	3.00	3.50		
153	Asbestos Cord, in 1 lb. balls, valuable for suspending metals, retorts, crucibles, etc., in contact with fire. Dia. ¼ in.					
						lb. 1.50
	Asbestos Fibre; see Chemical list.					
	Asbestos Mittens; see Gloves.					
154	Asbestos Paper; of pure, white, long fibered asbestos, 36 in. wide, 1 yard weighing 1 lb.					
						lb. .15
						In 10 lb. lots, lb. .12
155	Asbestos Wick Packing, in 1 lb. balls.					
						lb. .45
156	Asbestos Twine, in 1 lb. balls, dia. 1-16 in.					
						lb. 1.75
156a	Asbestos Sewing Twine, for sewing asbestos cloth, etc., in 1 lb. balls					
						lb. 2.25
157	Asbestos Tubes, ¾ in. outside, ⅝ in. inside diameter.					
	Length	9	10	12	15 in.	
	Each	\$0.06	.08	.10	12	

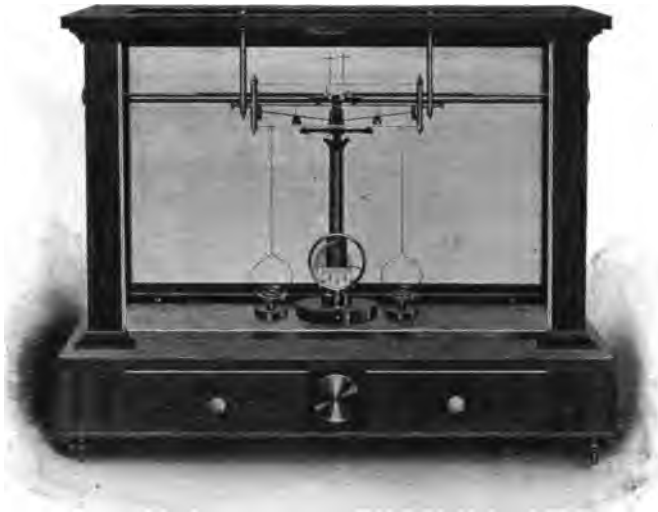
Assay and Analytical Balances.



200

No.

- 200 Ainsworth's Precision Balance Type C.** Sensibility 1-500 milligramme; 5-in. beam. For particularly accurate weighings, such as control and umpire assays, and for scientific laboratories where the utmost accuracy is required, it being by far the most accurate balance ever produced. The beam is of a special alloy, with 50 divisions each side of the center and reading to 1-50 milligramme with a 1 milligramme rider, or to 1-100 milligramme with a $\frac{1}{2}$ milligramme rider, finer readings being taken by subdividing the divisions with the eye, the beam being provided with a specially ground reading glass. The beam is unobstructed on the top, and a rider can be placed at any point from 0 at the center to the last division which is directly over the end edge and represents the full weight of the rider used. All bearings and edges, as well as all points of contact with the beam and hangers, are of agate. Has fall-away pan rests and skeleton hangers. It has improved rider apparatus and star-wheel adjustment; all metal work is gold plated; a plate-glass sub-base covers the entire top of base, and the case is of thoroughly seasoned mahogany throughout, and as nearly dust proof as it can be made. Dimensions, 20x17x10 inches; weight, 24 lbs. net; 50 lbs. packed. Price, without weights. **\$300.00**



201

No.

- 201 **Ainsworth's Special Button Balance Type A.** Sensibility 1-200 milligramme; 5-inch beam. This balance was designed to meet the demand of assayers and smelters for accurate and rapid weighings, and is used by many assayers having a large volume of work. The beam is of brass, straight on top and with 50 divisions each side of the center reading to 1-50 milligramme with a 1 milligramme rider, or to 1-100 milligramme with a $\frac{1}{2}$ milligramme rider, finer readings being taken by sub-dividing the divisions with the eye, a specially ground reading glass being provided. The beam is unobstructed on top, and a rider may be placed anywhere from 0 at the center to the last division at either end, which is directly over the end edge and represents the full weight of the rider used. All edges and bearings are of agate. Has fall-away pan rests, improved rider apparatus and releasing mechanism, plate-glass sub-base and skeleton hangers. In French polished mahogany case with counterpoised sliding door. Dimensions, 20x17x10 inches. Weight, 20 lbs. net; 50 lbs. packed. Price, without weights.....\$250.00



202

No.

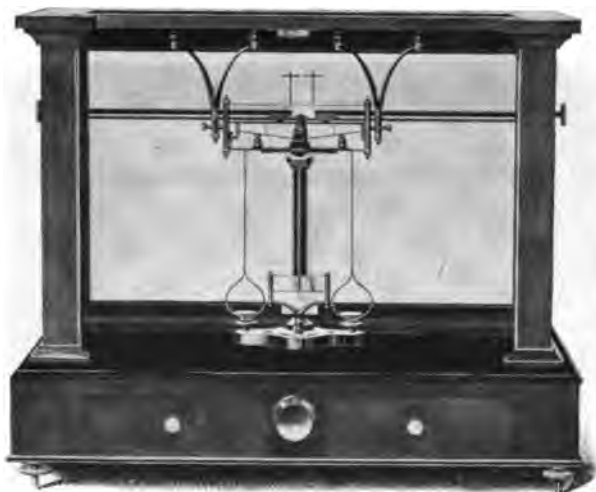
202 **Ainsworth's Button Balance Type E.** Sensibility 1-200 milligramme; 5-in. beam. This balance is similar in all respects to the Type A Special, with 5 in. beam, but is not provided with reading glass for beam.

Has all latest improvements, including improved rider apparatus, star-wheel adjustment, skeleton hangers, plate-glass sub-base, agate edges and bearings, etc.

Case is of thoroughly seasoned mahogany, with counterpoised sliding door.

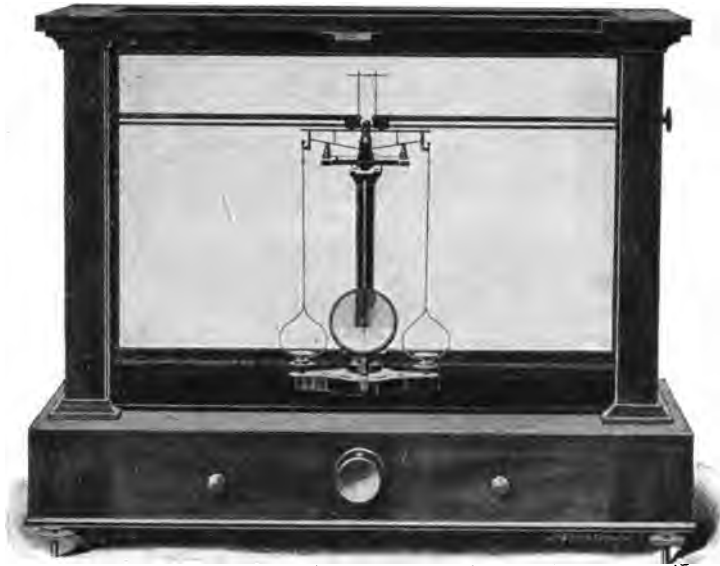
Dimensions, 20x17x10 inches. Weight, 20 lbs. net; 50 lbs. packed.

Price, without weights. **\$225.00**



203

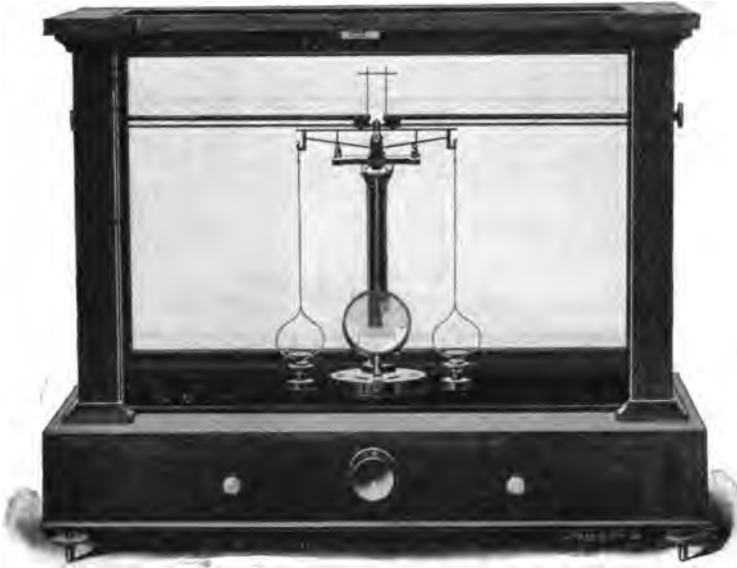
No.
203 **Ainsworth's Precision Balance Type D.** 4-inch beam. Sensibility 1-400 milligramme. This balance is similar to the Type C excepting the beam, which is 4 inches long, and the base, which is so constructed that it contains the bearings for the center rod and pan rests. This construction of the base preserves their alignment at all times, regardless of any warping of the wood, and the entire mechanism can be taken out for cleaning by removing but three screws. This balance having a shorter beam than the Type C, is not quite as sensitive, but more rapid, and when adjusted to a sensibility of 1-200 milligramme is unequalled for rapidity. Dimensions, 20x17x10 inches. Weight, 24 lbs. net; 50 lbs. packed. Price, without weights..... **\$300.00**



203a

No.

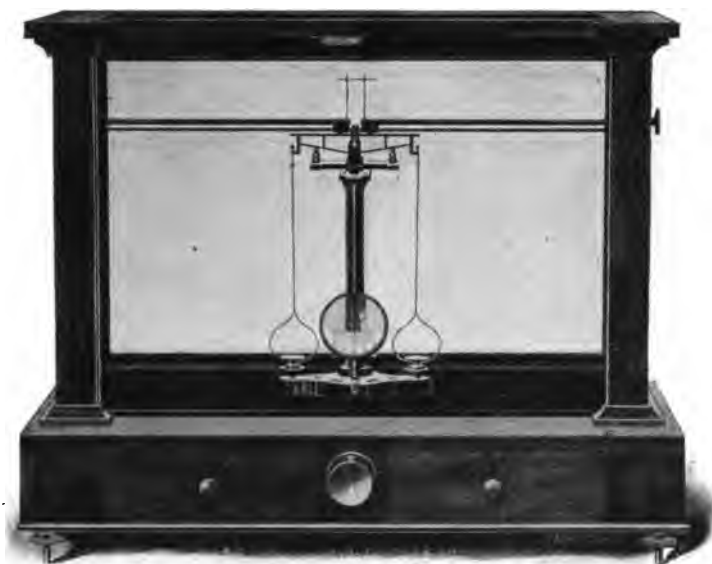
203a Ainsworth's Button Balance Type FA. 4-inch beam. Sensibility 1-200 milligramme. This balance is similar in all respects to the Type F, but without reading glass for beam. Has all latest improvements, including agate bearings and edges, skeleton hangers, glass sub-base, etc. Dimensions, 20x17x10 inches. Weight, 20 lbs. net; 50 lbs. packed. Price, without weights. **\$200.00**



203b

No.

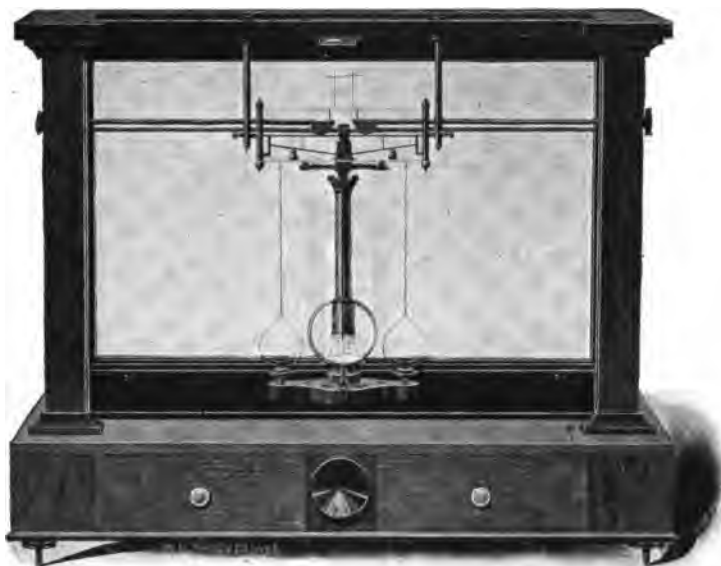
203b Ainsworth's Button Balance Type EA. 5-inch beam. Sensibility 1-100 milligramme. Has heavy 5-inch beam and is suitable for accurate and rapid gold and silver button weighings. Has all latest improvements, including fall-away pan rests, agate edges and bearings, skeleton hangers, double rider apparatus, plate-glass sub-base, reading glass for index, etc. Dimensions, 20x17x10 inches. Weight, 20 lbs. net; 50 lbs. packed. Price, without weights..... **\$160.00**



203c

No.

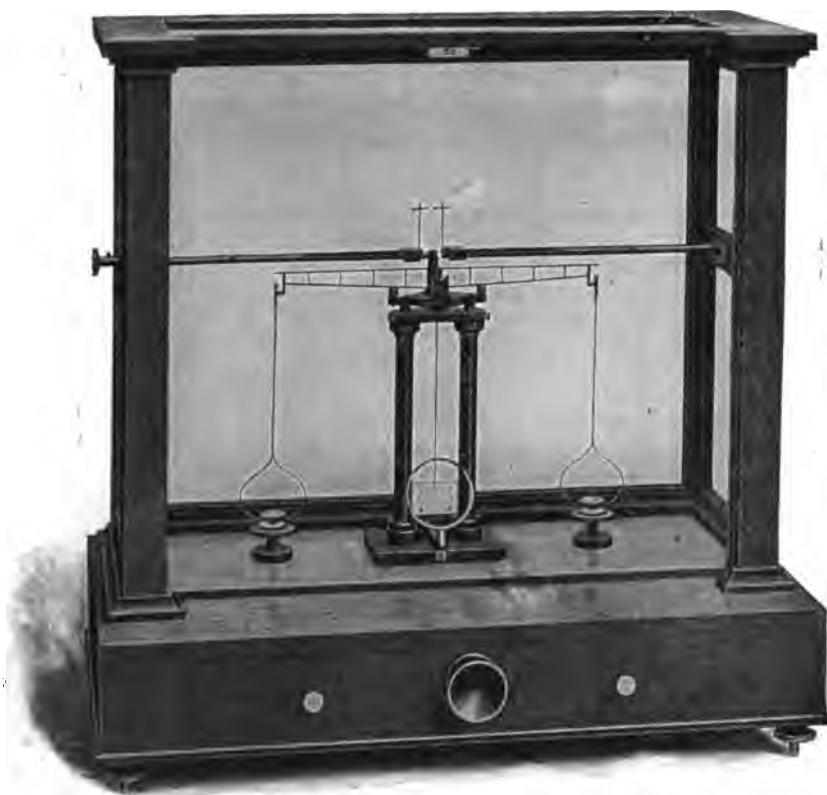
203c Ainsworth's Button Balance Type FB. 4-inch beam. Sensibility 1-100 milligramme. This balance has heavy 4-inch beam and is very rapid. Has all latest improvements, including improved rider apparatus, fall-away pan rests, skeleton hangers, agate edges and bearings, plate-glass sub-base, etc. Dimensions, 20x17x10 inches. Weight, 20 lbs. net; 50 lbs. packed. Price, without weights..... **\$160.00**



204

No.

204 D. F. C. Co.'s Special Button Balance. Sensibility 1-200 milligramme; 4-in. beam. This balance, having a beam but 4-in. long, is very rapid and has all the latest improvements, including reading glass for beam, improved rider apparatus, fall-away pan rests and plate-glass sub-base and skeleton hangers. The beam has 50 divisions each side of the center reading to 1-50 milligramme with a 1 milligramme rider, or to 1-100 milligramme with a $\frac{1}{2}$ milligramme rider, finer readings being taken by sub-dividing the divisions with the eye. It is unobstructed on the top and the rider can be placed at any point from the 0 at the center to the last division at either end, which is directly over the end edge and represents the full weight of the rider used. All edges and bearings are of agate. The base forms the sliding bearing for the center rod and pan rests and their alignment will remain perfect, regardless of the shrinkage of the wood and the entire mechanism can be taken out by taking out the screw in the center rider bar support and the two base screws. Has French polished mahogany case with counterpoised sliding door, all of thoroughly seasoned lumber. Dimensions, 20x17x10 inches. Weight, 20 lbs. net; 50 lbs. packed. Price, without weights. \$225.00

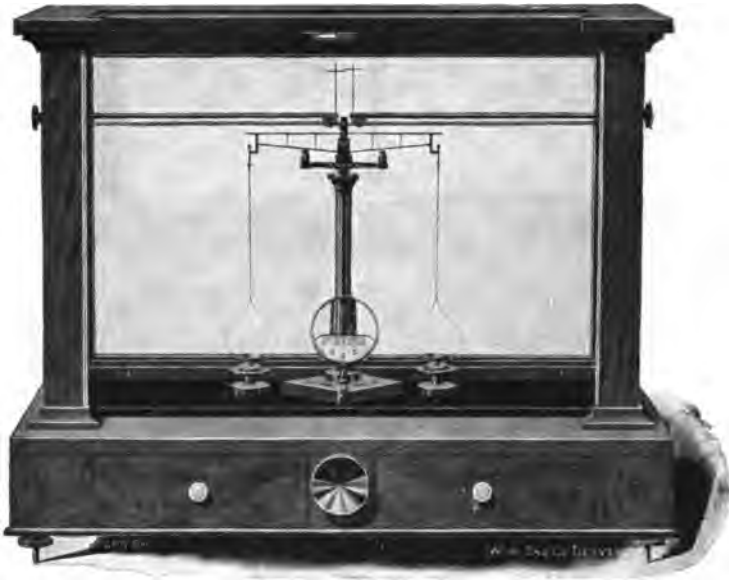


205

No.

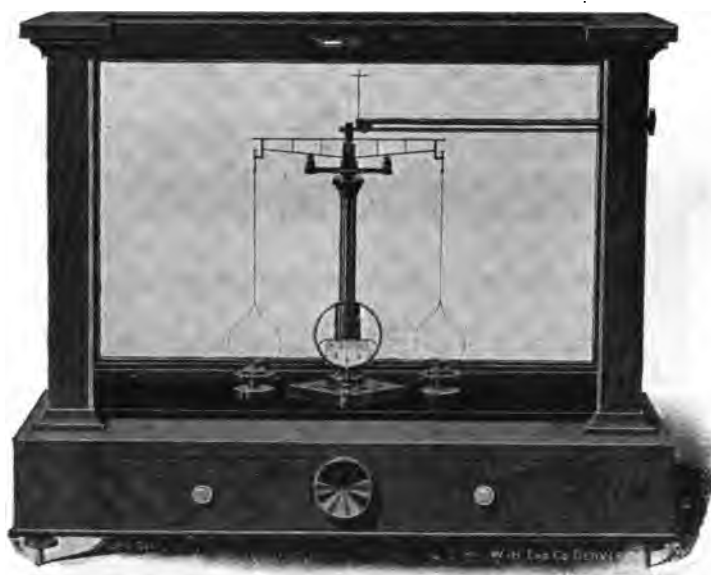
205

Ainsworth's Button Balance Type G. Sensibility 1-100 milligramme; 10-in. beam. A double column button balance with all the latest improvements, including fall-away pan rests, improved rider apparatus, agate bearings and edges and star-wheel adjustment. The beam has 50 divisions each side of the center reading to 1-50 milligramme with a 1 milligramme rider, or to 1-100 milligramme with a $\frac{1}{2}$ milligramme rider, and being unobstructed on the top, the rider can be placed at any point from 0 at the center to the last division at either end, which is directly over the end edge and represents the full weight of the rider used. Has French polished mahogany case of thoroughly seasoned lumber with counterpoised sliding door and plate-glass sub-base. Dimensions, 21x21x12 inches. Weight, 25 lbs. net; 65 lbs. packed. Price, without weights..... **\$175 00**

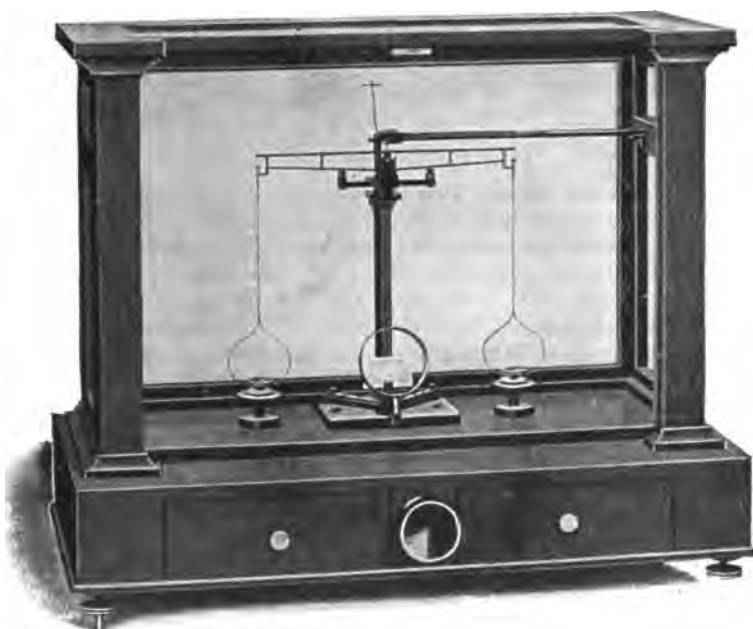


206

- No.
206 Ainsworth's Button Balance Type H. Sensibility 1-100 milligramme; 6-inch beam. An excellent button balance for ordinary button weighings, with all the latest improvements, including improved rider apparatus and fall-away pan rests. Has agate edges and bearings and star-wheel adjustment. The beam has 50 divisions each side of the center reading to 1-50 milligramme with a 1 milligramme rider, or to 1-100 milligramme with a $\frac{1}{2}$ milligramme rider, and being unobstructed on the top the rider may be placed at any point from 0 at the center to the last division, which is directly over the end edge and represents the full weight of the rider used. Has French polished mahogany case of thoroughly seasoned lumber, with counterpoised sliding door and plate-glass sub-base. Dimensions, 20x17x10 inches. Weight, 20 lbs. net; 50 lbs. packed. Price, without weights. **\$135.00**
- 206a Ainsworth's Button Balance Type I.** Sensibility 1-100 milligramme; 8-inch beam. Similar in all respects to the Type H with 6-inch beam, only a little slower in action, owing to the difference in length of the beam (2 inches). Dimensions of case, 20x17x10 inches. Weight, 20 lbs. net; 50 lbs. packed. Price, without weights. **125.00**



No. 207
Ainsworth's Button Balance Type J. Sensibility 1-50 milligramme; 6-in. beam. This balance is similar to the Type H, excepting the beam, which is graduated on the right-hand side only and adjusted to a sensibility of 1-50 milligramme. Has rider apparatus on the right-hand side only. Dimensions of case, 20x17x10 in. Price, without weights **\$110.00**



207a
Ainsworth's Button Balance Type K. Sensibility 1-50 milligramme; 8-in. beam. Similar to the Type J, only slower, owing to the difference in length of beam (2 inches). Price, without weights **100.00**

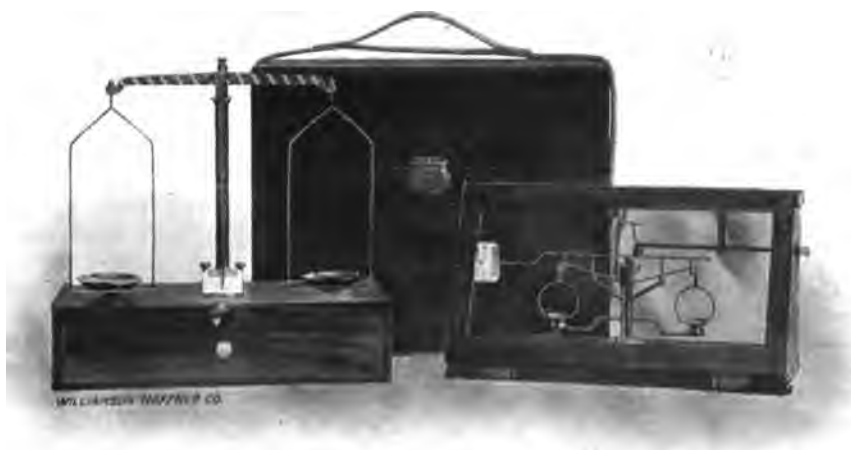


207b

No.

- 207b Ainsworth's Portable Button Balance Type R.** Sensibility 1-100 milligramme; 5-inch beam. An excellent portable button balance, having 5-inch beam, with agate edges and bearings, fall-away pan rests, single rider apparatus and improved rocking device for beam, rendering it unnecessary to remove the beam for carrying. Has French polished mahogany case and carrying case, dimensions of which are 7x14x8 inches. Weight, 6½ lbs. net; 15½ lbs. packed. Price, without weights..... **\$75.00**

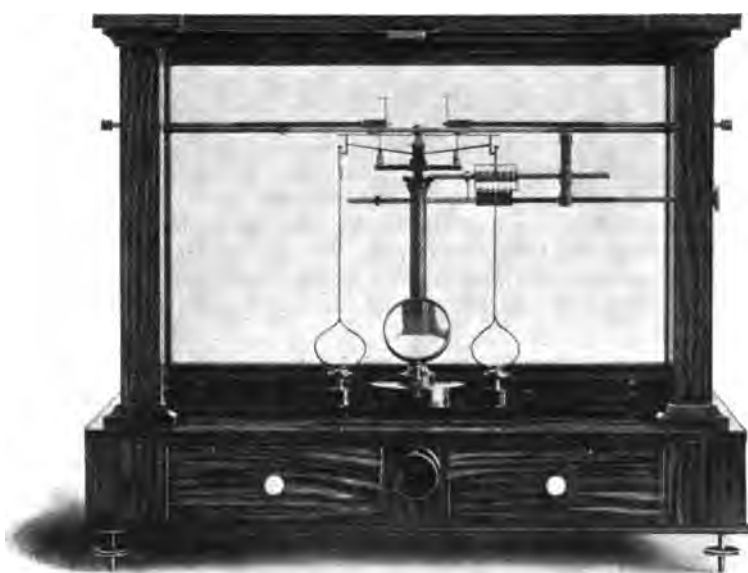
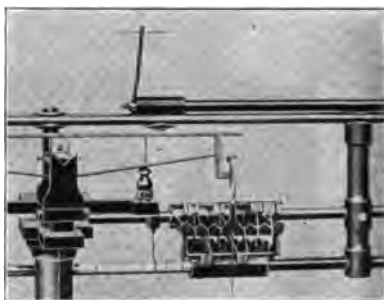
- 207c Ainsworth's Portable Button Balance Type RA.** Same as Type R, but with double rider apparatus. Price, without weights. **80.00**



207d

- 207d Ainsworth's Combination Set of Balances.** Consisting of the Portable Button Balance Type R (No. 207b), and the Portable Pulp Balance, Type N (No. 263). Packed in *one* mahogany carrying case, measuring 7x14x11 inches, and weighing 20 lbs. when packed. This makes a very compact and convenient prospecting outfit. Price, without weights. **90.00**

Ainsworth Multiple Rider Attachment



The above illustration shows Ainsworth's Improved Multiple Rider Carrier, as adapted to button balances for weighing without the use of the ordinary weights as used in the pan.

The riders maintain their original accuracy even after months of constant use, and not being subjected to the continual handling with tweezers, do not become bent or broken.

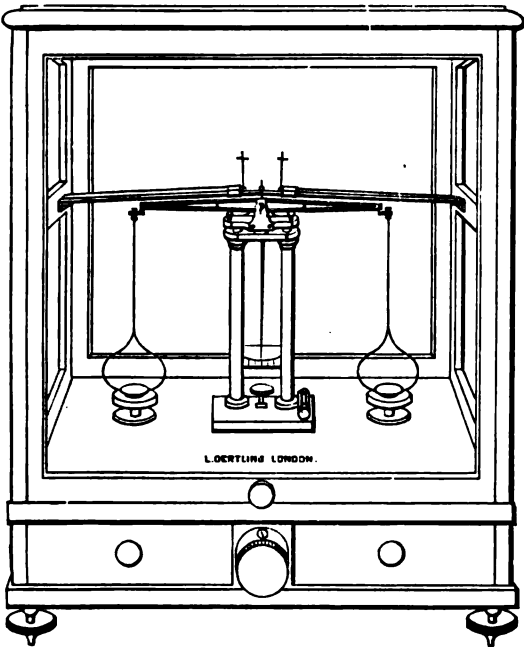
Each rider is carried on a separate arm a short distance above the bar on the stirrup, and it is only necessary to move the number on the lower rod until it stands opposite the index pointer, and then revolve the rod slightly, which transfers the rider from the arm to the stirrup.

Each rider has its individual arm for manipulating and cannot become misplaced, thereby causing an error in the following weighing.

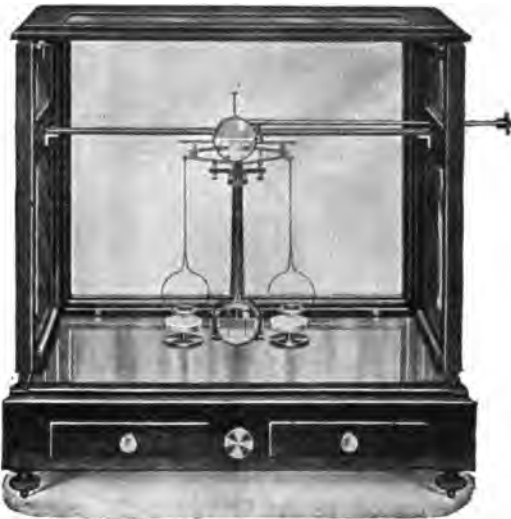
Button weighing up to 42 milligrammes can be weighed with the regular carrier and for larger capacities additional arms may be added.

When weighing a button at or near the capacity of the carrier, all of the riders may be shifted to the stirrup simultaneously, and those not needed transferred back to their respective arms. The figures on the front of arms down indicating the combined weight of the riders on the stirrup.

Price, attached to new balance when ordered	\$25.00
Price, attached to old balance	30.00



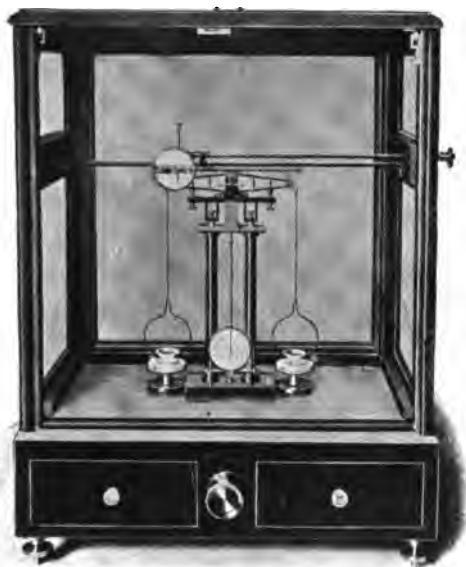
208



208a

No. 208 **Oertling's Assay Balance No. 12.** In polished mahogany case with counterpoised door, plate-glass bottom, two levels and leveling screws, double column; the beam is 10 inches long, divided on each side of the center into fiftieths of a milligramme, bearings agate. Sensible to 1-100 of milligramme. One milligramme rider furnished with each balance. Price **\$175.00**

208a **Troemner's Special No. 04 Assay Balance.** Gold plated, 4-inch beam. Sensibility 1-500 milligramme. This balance is especially designed for control and umpire assay and for the rapid handling of all particularly accurate work, and for all scientific investigations where the highest attainable sensibility is required. In the manufacture of this balance all complications have been avoided. No unnecessary parts have been added for picture effect, the whole is planned and worked out on straight lines; it is as simple and uncomplicated as truth. The beam is 4 inches long, made of a special alloy and oxidized black, the divisions are white, making it clear and easy to read. It has 100 full divisions each side of center knife and is provided with a specially ground reading glass. The rider carriage, which is operated from the right side, has full, clear sweep. Has fall-away beam and pan rests, releasing the beam and pans without any jerk or kick. All bearings and edges are of agate. New improved arrangement for balancing beam rapidly and of extreme sensitiveness. A reading glass is provided for the ivory index and beam, adjustable at any angle, or can be dropped entirely out of the way. All the metal parts of the balances are gold plated. The case is of the finest old mahogany, finely finished, with glass sides, top and back, the glass sub-base is of black plate glass, and entirely covers the top of case base. The case is as nearly dust proof as it is possible to make it, and is of the following dimensions: 15 inches high, 16½ inches wide, 9½ inches deep. Price **\$250.00**



209

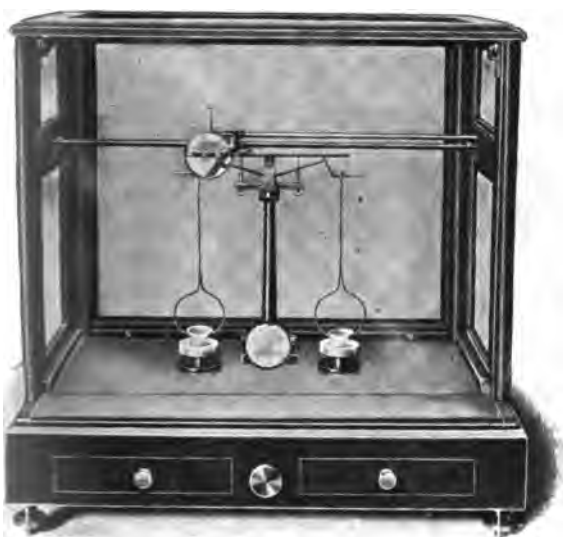


210

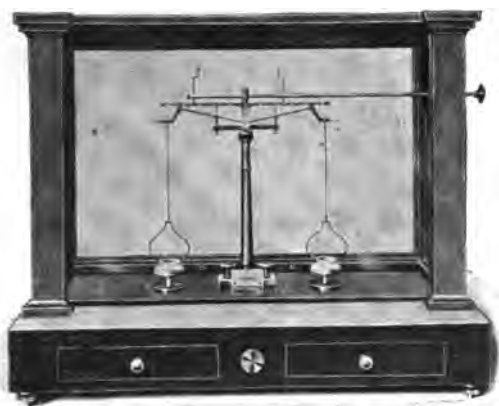
No.

209 **Troemner's No. 08 (New) Short Arm Assay Balance.** 5-inch beam. Sensibility 1-200 milligramme. This balance is of the same type and finish as No. 5, except that it is smaller and has 5-inch beam of special aluminum alloy, oxidized black with white divisions, and is divided into 100 parts each side of the center knife edge. The rider carriage has full clean sweep and is provided with adjustable reading glass for the beam. Has fall-away beam and pan rests. All the bearings and edges are of agate. There is a reading glass for ivory index. The case is of old mahogany, finely finished, with glass sides, back and top; the sub-base is of black plate glass, and the whole is as nearly dust proof as it is possible to make it. Price **\$165.00**

210 **Troemner's No. 5 Assay Balance.** 8-inch beam. Sensibility 1-400 milligramme. This balance is of the very highest type, and has special alloy aluminum beam 8 inches long, and graduated both sides of the center knife edge into 100 divisions, and oxidized black with white divisions, making it clear and easy to read. The rider carriage has full clear sweep, and is provided with a specially ground reading glass, which is adjustable. Has fall-away beam and pan rests, which releases the beam first and then the pans, and is free from jerks and kicks. All bearings and edges are of agate. An adjustable reading glass is provided for the ivory index. The case is of the finest old mahogany, finely finished, with glass sides, back and top, the sub-base is of black plate glass, the whole being as nearly dust proof as it is possible to make it. Price **175.00**



210a



211

No.
210a **Troemner's New No. 7 Assay Balance.** Single column. The beam is 5 inches long, of special aluminum alloy, oxidized black with white divisions; it is divided into 100 divisions each side of the center knife edge. The rider carriage has full clear sweep, and is provided with a specially ground reading glass for the beam. Has fall-away beam and pan rests. All the bearings and edges are of agate. There is an adjustable reading glass for ivory index. The case is of the finest old mahogany, finely finished, with glass sides, top and back; the sub-base is of black plate glass, and is as nearly dust proof as it is possible to make it. Price **\$175.00**

211 **Troemner's No. 3 Assay Balance.** It is intended for use, and will do all the practical work the assayer has to do, and do quickly, at the smelter. The beam is of special alloy, oxidized black with white divisions, and is divided into 50 divisions each side of the center knife edge. The rider carriage has full clear sweep. Has fall-away beams and pan rests. All the bearings and edges are of agate. The case is of old mahogany, finely finished, with glass top, sides and back, the sub-base is of black plate glass, and is as nearly dust proof as it is possible to make it. Price **95.00**



212

No.

- 212 **Troemner's No. 2 Assay Balance.** Has a guaranteed sensibility of 1-50 milligramme. The beam is of aluminum alloy, and is divided on the right side only of the center knife edge into 50 divisions. The rider carriage has full clear sweep. Has fall beam and pan rests. All the bearings and edges are of agate. The case is of the finest old mahogany, finely finished, with glass front, back and sides, and is as nearly dust proof as it is possible to make it. Price **\$80.00**



214

- 214 **Troemner's Latest Portable Assay Balance.** The beam is of aluminum alloy, oxidized black with white divisions, and is divided both sides of the center knife edge into 50 divisions. The rider carriage has full clear sweep. Has fall-away beams and pan rests. Agate knives. The beam need not be taken off the fulcrum to carry it about, as it is held in its correct position by a specially made clamp, and can be carried or packed in any position without the least liability to become injured; it can be set up instantly for use. The case is of old mahogany, finely finished, with glass sash front and back. Size, $7\frac{1}{2} \times 8 \times 3\frac{1}{2}$ inches. The outside case is of walnut, with lock and key and trunk strap with handle. Size, $8\frac{1}{2} \times 9 \times 4\frac{1}{2}$ inches. The handiest and most efficient Portable Assay Balance made; with set of platinum weights, 1 gramme to 1-10 milligramme. Price **70.00**

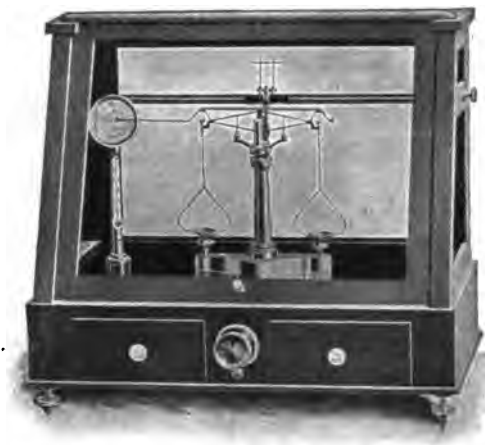


215

No.

- 215 **Becker's Assay Balance No. 4, Short Beam.** In French polished mahogany glass case, front sliding frame counterpoised, with glass top to admit more light on the rider. All parts of the balance are mounted and fastened on plate glass 5-16 in. thick, so that nothing can get out of order through warping of the wood. Agate bearings and agate knife edges; beam graduated into 1-50 milligramme and the rider can be placed on the center of the beam and used from the 0 point to either end of it. Needle deviates 50 divisions on the scale for 1 milligramme. A 1 and 2-10 milligramme rider included. Price..... **\$135.00**

- 216 Same as No. 215, with aluminum beam, bows, pans, etc..... **145.00**



217

No.
217 **Denver Balance Co.'s Button Balance H.** With 4-inch beam, 1-200 to 1-400 mg. sensitiveness. The beam is similarly constructed on either side of line of edges and pointer, insuring strength and perfect alignment of the edges during variations of temperature. The graduations are on a separate strip of Meteorite, and adjusted to the edges. The star wheel adjustment is placed on either side of center edge. The beam-locking device, easily operated from the outside of case and found so very convenient in our portable styles, is applied to this balance also. The advantages of it are—convenience in transportation, unnecessary handling of beam, greater safety in placing hangers and operating the star-wheel adjustment. The rider attachment of improved design will always work smooth and easy under all conditions, and securely locks the carriers in place when not in use. A reliable thermometer set in the column supporting the index will be found a convenient adjunct to the balance. The working parts of the balance, mounted on a heavy plate glass base, will always keep in perfect alignment. The balance, although not classed as a portable, when provided with a leather-covered carrying case, can be used for such purposes.

Price, if sensitive to 1-200 mg.	\$200.00
Price, if sensitive to 1-400 mg.	225.00
Carrying case, net	6.50



218

No.

218 Denver Balance Co.'s Portable Button Balance R. With 4-inch beam.

This balance has been designed and constructed with the view of furnishing assayers and mine experts in need of a more accurate and up-to-date portable balance than has heretofore been obtainable. The beam, similar to Style H, No. 217, is provided with a locking device which securely holds it in place while en-transport, or while the hangers are being put in place, a pressure on a push button and a slight turn of the thumb piece being all that is necessary to securely lock or release it. The beam is unobstructed on top, allowing the riders to be placed at any point desired. This balance has improved double rider attachment, agate edges and bearings, fall-away pan rests, levels and leveling screws. The index is provided with a strong reading glass, which is easily detached and may be used for other purposes. The case is mahogany, French polished, and of the beveled front pattern; has counterpoised sliding door and plate glass sub-base. Dimensions of carrying case, 13x9x7½ inches. Weight of Style R and carrying case, 10 lbs.

Price, Style R, sensitive to 1-100 mg. **\$150.00**

Price, Style R, sensitive to 1-200 mg. **165.00**

In combination with Style O, Portable Pulp Balance, extra **15.00**



219 Style S.



219 Style O.



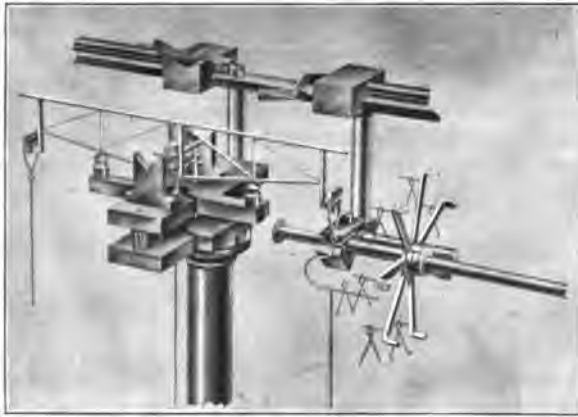
No.
219 **Denver Balance Co.'s Portable Button Balance S.** With 5-inch beam. Has agate edges and bearings, fall-away pan rests, level and leveling screws. The beam is unobstructed on top and is provided with a locking device securely holding it in place while en-transport. The case is of walnut, French polished, and of the beveled front pattern; has sliding door, which can be held at any point. These are good, substantial balances, capable of withstanding a reasonable amount of hard usage, and of a much better grade than other makes of same price and capacity. All material is of the best. This is a good all-round portable outfit. Dimensions of carrying case, 13x12x7½ inches. Weight, outfit complete, 14 lbs.

- Price, Style S, sensitive to 1-50 mg., single rider attachment.... \$ 85.00
- Price, Style S, sensitive to 1-50 mg., double rider attachment... 90.00
- Price, Style S, sensitive to 1-100 mg., double rider attachment. . 112.00
- In combination with Style O, Portable Pulp Balance, extra..... 15.00

Style O, Portable Pulp Balance. Sensitiveness, 1 mg., 6-inch beam. Fitted with level and leveling screws, 2½-inch pans, mounted on a French polished mahogany base, into the drawer of which the beam, column, hangers and pans pack for carrying..... 15.00



Button Balance, Style 6.



Multiple Rider Carrier.

No.

220

Thompson's Button Balance, Style 6. 4-inch beam. Sensibility 1-400 milligramme. We recommend this balance for work requiring extreme accuracy, such as control and umpire assays. The balance is quick and positive in action, and has that stability of poise for which the Thompson balances have become noted. This balance is equipped with multiple rider carrier, thus doing away entirely with all handling of small weights up to seventy-two milligrammes. The riders are placed on the hanger by means of a wheel-like carrier, which gives the same results as if they were placed in the pan, the fractions of a milligramme being obtained as before with the ordinary one milligramme rider on the beam. The balance is fitted with specially ground reading glasses for beam and index. Edges and bearings are of agate, the stirrups being jeweled at the point where they come in contact with end of knife edges. The balance has fall-away pan rests, skeleton hangers and star-wheel adjustment. A black plate glass covers the entire base. The case is thoroughly seasoned mahogany and finely finished.

Price, complete as described above **\$300.00**



221

No.

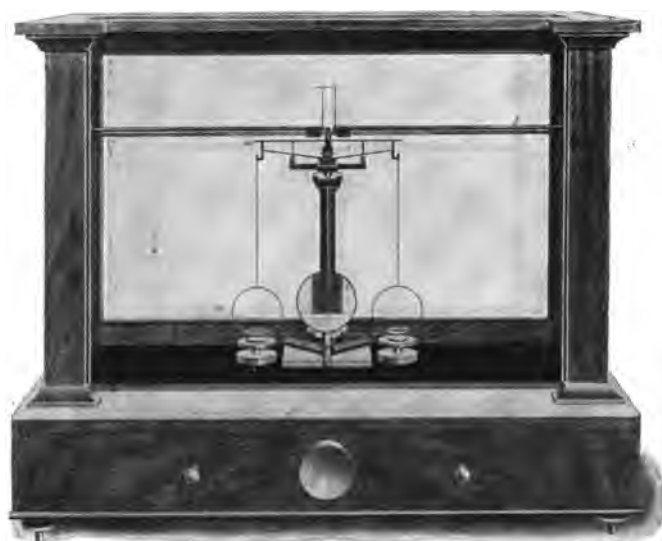
- 221 **Thompson's Button Balance No. 7.** Sensibility 1-200 milligramme. Short beam, length four inches; has agate edges and bearings. The beam is made very light, which adds to its quickness, and is braced for stiffness; making it stronger than a heavier beam without the braces. It is gilded and has pin graduations. The beam is divided in 50 divisions on each side of center; this enables the operator to place the rider on the center and also to weigh the full milligramme with a one milligramme rider. The balance is provided with improved double rider attachment, fall-away pan rests, star adjustment, straight top beam, skeleton hangers, reading glass for ivory index, plate-glass base, levels and leveling screws, has polished mahogany case with counterpoised door. The large magnifier gives to the operator the advantage in reading or placing the rider of a six-inch beam with the quickness and accuracy of a four-inch beam. These advantages make this balance particularly desirable for large smelters where extreme accuracy and speed are appreciated, and is now being used by all the leading smelters. The balance does not "kick" when released. Price **\$225.00**



- No. 222 222
Thompson's Button Balance No. 9. Sensibility 1-200 milligramme. Short beam, length four inches, agate edges and bearings. Has pin graduations, double rider attachment, fall-away pan rests, star adjustment, straight top beam with no obstruction to the riders, skeleton hangers, levels and leveling screws, reading glass, plate glass base and polished mahogany case with counterpoised door. Similar to style No. 7, but no large magnifier. Does not "kick" when released. Price **\$200.00**

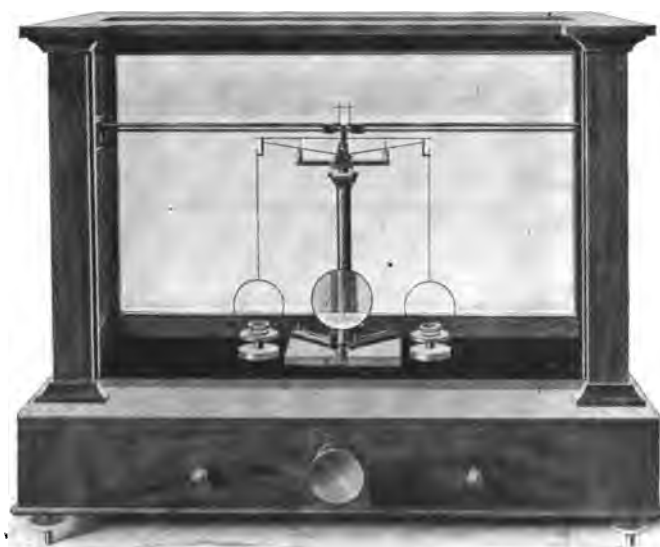


- No. 223 223
Thompson's Button Balance No. 10. Sensibility 1-100 to 1-200 milligramme. Four-inch heavy beam; will stand a reasonable amount of hard usage Same as style No. 9, except the beam, which is of a cheaper construction. Price **\$175.00**



224

- No.
224 **Thompson's Button Balance No. 19.** Sensibility 1-100 milligramme. Five-inch beam, agate edges and bearings, double rider attachment, fall-away pan rests, star adjustment, skeleton hangers, levels and leveling screws, reading glass for ivory index, polished mahogany case with plate base. Price **\$150.00**



225

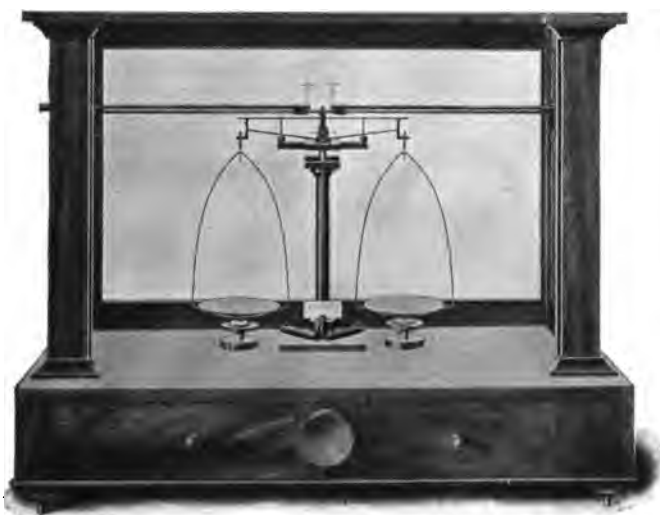
- 225 **Thompson's Button Balance No. 20.** Sensibility 1-50 milligramme. Has agate edges and agate bearings. Length of beam six inches. Double rider attachment, plate glass base, reading glass, fall-away pan rests, star adjustment, skeleton hangers, levels and leveling screws, polished mahogany case with counterpoised door. Price **110.00**



226

- No.
- 226 **Thompson's Portable Assay Balance No. 26.** Sensibility 1-50 milligramme.
Four-inch beam, agate edges and bearings. Single rider attachment, star adjustment, skeleton hangers, fall-away pan rests, plate glass base, levels and leveling screws. Beam is not disturbed when packed. Polished mahogany case with counterpoised door. The balance is fitted with neat carrying case 12 inches high, 11 inches long and 6 inches deep. This balance is designed for mine experts where good results are desirable. Price..... **\$115.00**
- 226a **Thompson's Portable Assay Balance No. 25.** Sensibility 1-200 milligramme.
Same as No. 26, fitted with No. 9 beam in place of the regular No. 26 beam. Double rider attachment. Price..... **175.00**

Analytical Balances.



No.

227

227 Thompson's Analytical Balance No. 29. Sensibility 1-20 milligramme. Length of beam six inches. Has agate edges and bearings, star adjustment, double rider attachment, skeleton hangers, fall-away pan rests, levels and leveling screws. Pans three inches in diameter, will carry a load of 200 grammes in each pan. Provided with apparatus for specific gravity. Polished mahogany case with counterpoised door. Price. \$100.00



228

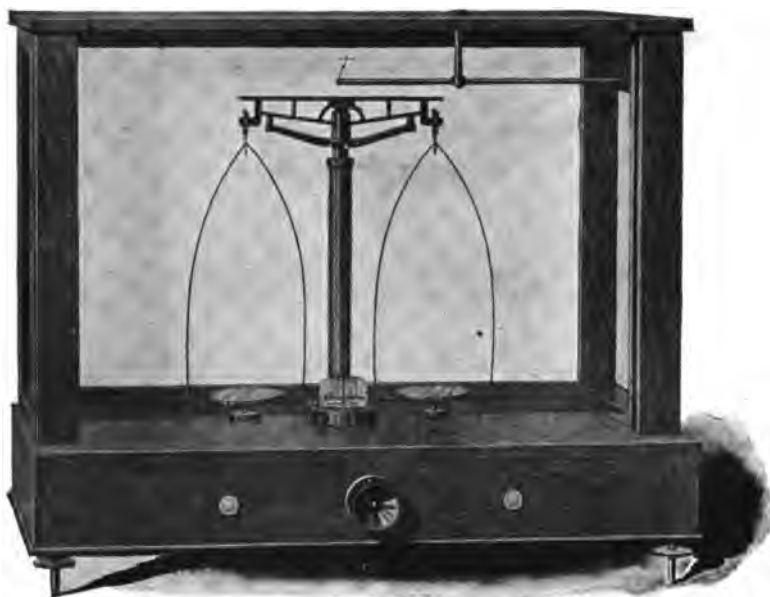
228 Thompson's Chemical Balance No. 31. Sensibility 1-10 milligramme. Six-inch beam graduated on one side only, single rider attachment, steel knife edges and agate bearings, star adjustment, skeleton hangers, fall-away pan rests, levels and leveling screws, polished mahogany case with counterpoised door. Price 60.00



229

- No. 229 **Ainsworth's Analytical Balance Type Q.** Sensibility 1-20 milligramme. Capacity 200 grammes, 7-inch beam. An analytical balance of precision with hard rolled nickel aluminum beam, agate edges and bearings, double rider apparatus of improved construction, skeleton hangers. Has two level vials set in base, extension glass sub-base covering entire top of base; all metal work gold plated except the center bearings and drop levers. Drop levers swing from center coincident with contact line of center edge and release all contacts with the edges when loading the balance. Has finely French polished mahogany case with counterpoised sliding door in front and removable sliding door in back. In the engraving the front door has been removed to better illustrate the balance. Dimensions of case, 20x20x10 inches. Weight net, 20 pounds. Packed, 60 pounds. Price..... **\$125.00**
- No. 230 **Ainsworth's Analytical Balance Type T.** Similar in all respects to Type Q, No. 229, but with 6-inch beam. Price..... **125.00**

Either of the above types can be furnished adjusted to a sensibility of 1-50 milligramme, for **\$15.00** (list) additional.



231

No.

- 231 Ainsworth's Analytical Balance Type L.** Sensibility 1-10 milligramme. Capacity, 200 grammes; 6-in. beam. This balance is of the latest improved construction, the yokes and pan rests being operated by a single thumb-piece, the yokes withdrawing first, leaving the edges in contact with the bearings, and the pan rests which drop last, remaining in contact until the end of the stroke, then dropping quickly and allow the beam to swing. Has agate bearings. A balance constructed in this manner is much quicker to operate and the pan rests dropping vertically have less tendency to set the hangers in motion than when dropping through the arc of a circle as heretofore constructed. Has French polished mahogany case with counterpoised sliding door. Dimensions, 20x17x10 inches. Price, without weights. **\$85.00**

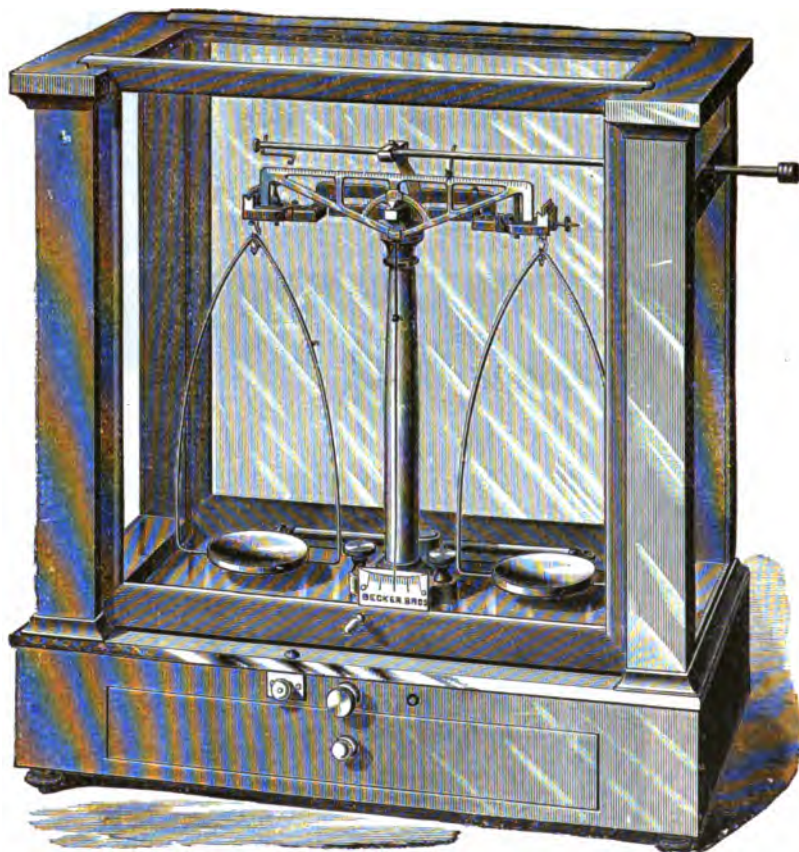
N. B.—Agate edges furnished at an additional cost of **\$10.00**.



- No. 232 232
Ainsworth's Chemical Balance Type P. Six-inch beam. Sensibility 1-10 milligramme. Capacity, 200 grammes. This type has agate bearings and hard rolled brass beam. It is a good balance for rough analytical work and an excellent pulp balance. Has French polished mahogany case with counterpoised sliding door. Dimensions of case, 20x17x10 inches. Price, without weights. **\$45.00**



- 234 234
Troemner's Analytical Balance No. 10. Short arm pure aluminum beam, agate planes and agate knives, no steel used, both arms of the beam are graduated; the pans also of aluminum; all the brass work is plated with gold; elegant mahogany case (old wood), with heavy plate glass bottom; case has glass top to admit light freely; is provided with improved self-locking pan rest (push in the button, turn slightly to the left, this locks the arrest). Balance will carry 200 grammes, and is sensible to 1-20 milligramme. All the workmanship is of the very finest. This balance is in use at the U. S. Coast Survey, and by all the large steel and iron works. Price **\$125.00**

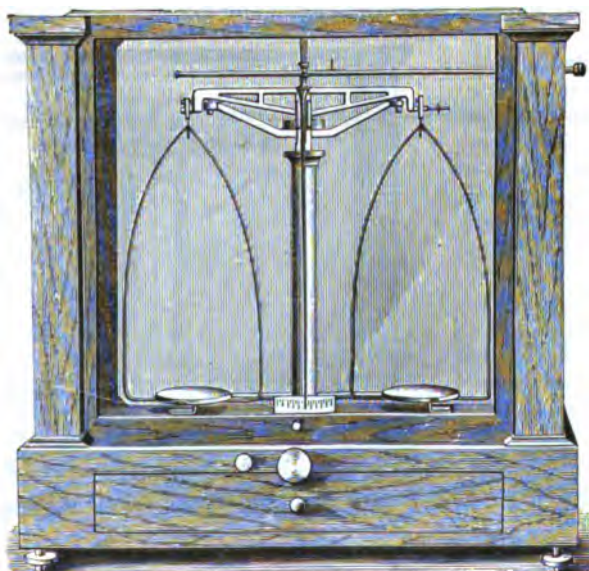


240-241

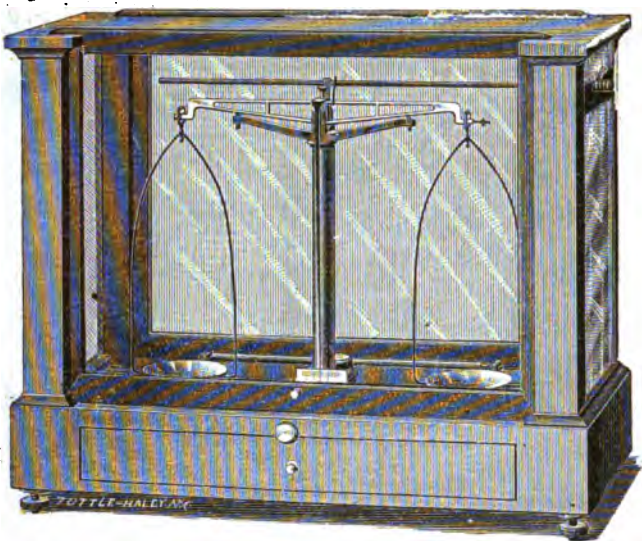
- No.
240 **Becker's Short Beam Analytical Balance No. 8A.** For a charge up to 200 grammes in each pan; sensible to 1-20 milligramme. In French polished mahogany glass case, front sliding frame counterpoised, with glass top to admit more light on rider. Mounted on plate glass 5-16 in. thick. All bearings and knife edges of agate; beam graduated in 1-10 milligramme so that the rider can be placed on the center and used from the 0 point to either end. Provided with new improved arrangement for arrest of pans and beams, rider, specific gravity and for weighing tubes. Pans 2 $\frac{3}{8}$ in. dia., width of pan support 4 in. **\$125.00**
- 241 Same as No. 240, with aluminum beam, bows, etc. **145.00**



- | | | |
|-----|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No. | 244-245 | |
| 244 | Becker's Analytical Balance No. 7. | For a charge up to 100 grammes in each pan, in French polished glass case, front sliding frame counterpoised. All bearings agate planes; with new improved arrangement for arrest of pans and beam; sensible to 1-20 milligramme with its full charge. Provided with arrangement for specific gravity, rider and weighing tubes. Beam divided into 1-10 part of milligramme. Pans 2½ in. dia. |
| | | \$85.00 |
| 245 | Same as No. 244, with agate knife edges. | 95.00 |



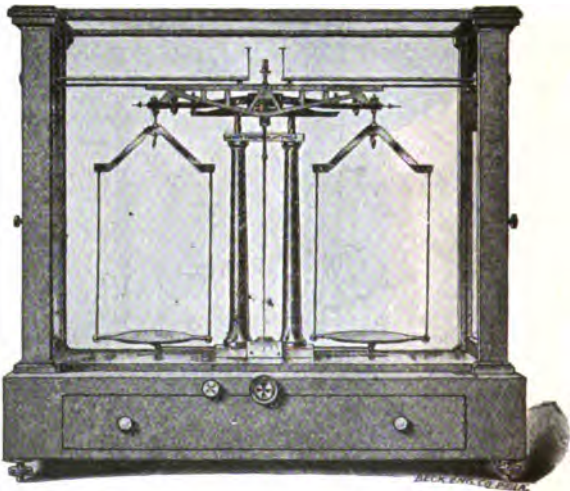
- | | | |
|-----|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | 246 | |
| 246 | Becker's Short Beam Balance No. 6A. | In mahogany French polished glass case, glass top for light on rider, front frame counterpoised. For a charge up to 100 grammes in each pan; sensible to 1-10 milligramme; beam graduated in 1-5 milligramme, provided with improved pan arrest, riders, agate bearings, etc. |
| | | 60.00 |



253

- No. 248 Same as No. 246, with agate knife edges. \$68.00
- 250 Same as No. 246, with agate knife edges, aluminum beam, bows, pans, etc. . . . 80.00
- 252 **Becker's Improved Analytical Balance No. 6.** For charge up to 100 grammes in each pan; in French polished glass case, front sliding frame counterpoised; all bearings agate; sensible to $\frac{1}{4}$ milligramme with its full charge; with arrest for pans. 45.00
- 258 Same as No. 252, improved with arrangement for rider 50.00

255 **Troemner's Analytical Balance No. 00.** For scientific use of the very finest construction—the entire Balance in every part is made of aluminum—has double columns, as shown in cut. Capacity 1000 grammes in each pan, sensibility 1-10 milligramme; all bearings are of agate, all knives also of agate. It is provided with double rider apparatus and every known modern improvement. Beam is 12 in. long, pans $4\frac{1}{2}$ in., width of pan supports $5\frac{1}{2}$ in. In a fine French polished mahogany case, with counterpoised doors. \$185.00



255-256

- 256 **Troemner's Analytical Balance No. 00.** Same as No. 255, but with a capacity of 2000 grammes in each pan; sensibility 1-10 milligramme. 205.00

Other Balances, not enumerated on preceding pages, either of domestic or foreign make, quoted upon application.

BALANCES.

For Weighing the Assay Ore Charge, Bullion, and for Pharmaceutical and Jewelers' Use.



No.

260

260 **Thompson's Pulp Balance No. 33.** Sensibility 1-10 milligramme. For use where extreme accuracy is desired. Six-inch beam, steel knife edges and agate bearings, fall-away pan rests, levels and leveling screws, star adjustment, three-inch pans, polished mahogany case with counterpoised door. Price..... **\$50.00**



261

261 **Thompson's Pulp Balance No. 35.** Sensibility $\frac{1}{4}$ milligramme. Seven-inch beam, steel knife edges with agate bearings, level and leveling screws, adjustable pan rests, pans $2\frac{1}{4}$ inches in diameter, fly adjustment, polished mahogany case with counterpoised door. Price..... **30.00**



262

No.

- 262 **Ainsworth's Pulp Scale Type M.** Sensibility $\frac{1}{2}$ milligramme; 8-in. beam. Capacity, 200 grammes. Has level, leveling screws and pan rests and is ordinarily furnished with 2 $\frac{1}{2}$ -in. pans, but 3-in. pans will be furnished when specified. The beam, hangers and pans pack in the drawer for shipment. Has French polished mahogany case with counterpoised sliding door. Dimensions, 17x15x8 inches. Price, without weights **\$30.00**



263

No.

- 263 **Ainsworth's Pulp Scale Type N.** Sensibility 1 milligramme; 8-in. beam. Capacity, 200 grammes. Similar to Type M in general construction; has 2 $\frac{1}{2}$ -in. pans; mounted on polished mahogany base, into the drawer of which the beam, column, hangers and pans pack for carrying. Dimensions of case, 12x6x3 inches. Price, without weights. **15.00**



263a

- 263a **Thompson's Pulp Scale No. 37.** Sensibility 1 milligramme. On polished mahogany base with drawer in which the column beam hangers and pans can be packed for convenience in shipping. Fly adjustment. Pans 3 inches in diameter. Price. **11.00**



264



265



265a



267

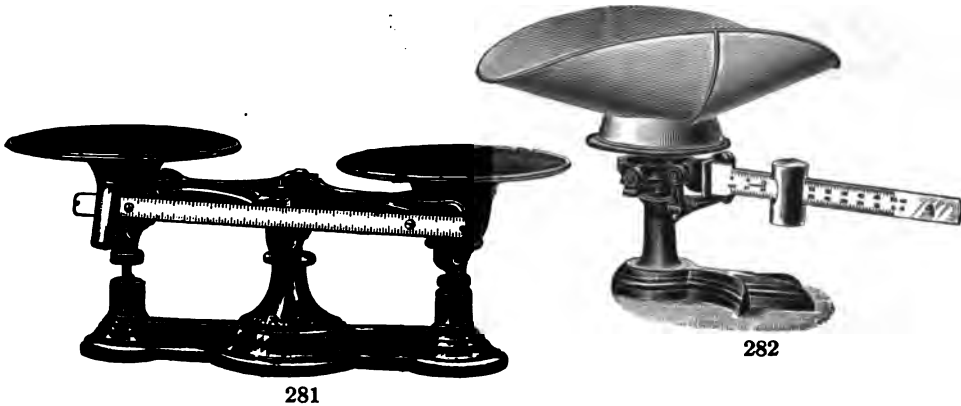
- No.
- 264 **Troemner's Pulp Scale No. 26.** In French polished mahogany case, with counterpoised sliding door; has movable nickel pans, adjusting screws on beam; eccentric lift; glass level and leveling screws. Sensible to 1-30 grain; capacity, 2 oz. in each pan. **\$27.00**
- 265 **Troemner's Pulp Scale No. 25.** In polished mahogany case, with sliding door, leveling screws, glass level, adjusting screws at end of beam, 8-in. beam, 3-in. pans, capacity 10 oz. **30.00**
- 265a **Troemner's Pulp Scale No. 63.** In French polished mahogany case, with counterpoised door, sliding upward; scale is of finest finish, all lacquered, pans of solid nickel; improved lifting arrangement; adjusting screws on beam; dia. of pans 2½-in.; beam 8-in.; sensible to 1-50 grain . . . **22.00**
- 266 **Troemner's Pulp Scale No. 22.** Without case, on French polished box with drawer, lacquered brass beam 10 in. long, movable nickel-plated brass pans 4-in. diameter. Capacity 10 oz.; sensible to 1-30 grain. **18.00**



273

No.			
267	Pulp Scale No. 16.	In French polished glass case, with counterpoised front sliding frame, eccentric for lifting, bows and movable pans. For a charge up to 2 oz. in each pan; sensible to 1-60 grain or 1 milligramme . .	\$22.00
268	Pulp Scale No. 18.	Same as No. 267, but for a charge up to 5 oz. in each pan. Sensible to 1-30 grain	26.00
269	Pulp Scale No. 20.	Same as No. 267, but for a charge up to 10 oz. in each pan. Sensible to 1-30 grain	35.00
270	Pulp Scale No. 22.	Same as No. 267, but for a charge up to 20 oz. in each pan. Sensible to 1-20 grain	42.00
271	Pulp Scale No. 14.	On French polished box with drawer, eccentric for lifting bows and movable pans. Can be charged up to 2 oz. in each pan. Sensible to 1-50 grain	11.00
272	Pulp Scale No. 17.	Same as No. 271, but for a charge up to 5 oz. in each pan. Sensible to 1-30 grain.	15.00
273	Pulp Scale No. 19.	Same as No. 271, but provided with set screws and level, for a charge up to 10 oz. in each pan. Sensible to 1-10 grain	22.00
274	Pulp Scale No. 21.	Same as No. 273, but for a charge up to 20 oz. in each pan. Sensible to 1-10 grain	27.00

MOISTURE SCALES.



No.

- 281 New Moisture Scale.** Designed and manufactured exclusively by the **Denver Fire Clay Company.** The scale is so constructed that on using a moisture charge of two pounds the sliding weight on the beam indicates the exact per cent of loss or moisture. **Example:** Place a 2-pound weight on left-hand platform, counterpoised with ore to be tested for moisture on the right; then dry the sample so weighed and place on same platform as before, and counterpoise by sliding weight on beam, when you read off the ounces lost and per cent of loss. For absolute accuracy and simplicity it has no equal. Any other weight or charge may be used, when a simple calculation gives correct per cent of moisture. This scale is also useful for ordinary weighing purposes. Including 2-pound weight, tin scoop and tare weight **\$10.00**
- 282 Moisture Scale.** Used at smelting and similar plants for determining the percentage of moisture in ores, etc. The ordinary capacity scale is made to weigh a sample of 50 ounces, but special scales are manufactured to order of other capacities as described below. The scale beam has two rows of graduation, the upper row giving the weight in ounces, or pounds, and fractions thereof; the lower row giving the percentages. The percentage row on all scales is figured 100 to 0 per cent, by 1 per cent, and thus the reading gives the direct percentage of loss. The given amount of ore is first weighed, then dried or roasted and re-weighed to note the loss of moisture or sulphur. From 50 oz. to $\frac{1}{2}$ oz. capacity. **10.00**
- 283** Same as No. 282, from 50 oz. to $\frac{1}{2}$ oz., but with fractional graduations of $1 \times 1-10$ per cent. on tip end of the main beam, and both the main and fractional beams are fitted with patent latch poises. **25.00**
- 284** Same as No. 282, from 2 kilos to 10 grammes. **10.00**
- 285** Same as No. 283, **Metric**, with fractional graduation. **25.00**

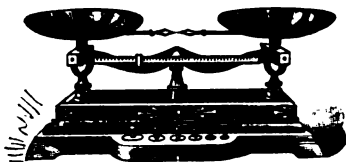
BULLION SCALES.



290-290a



291-291a



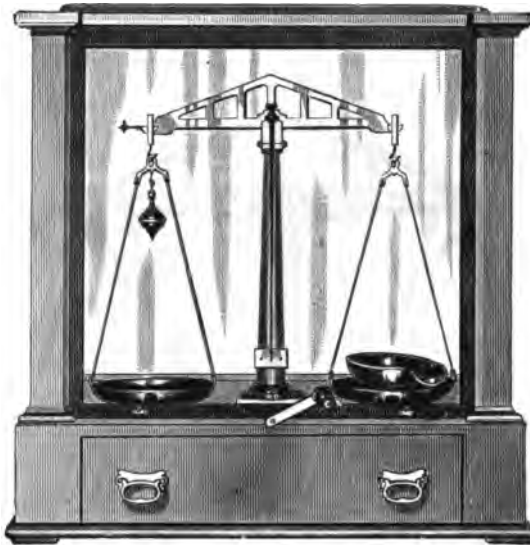
292



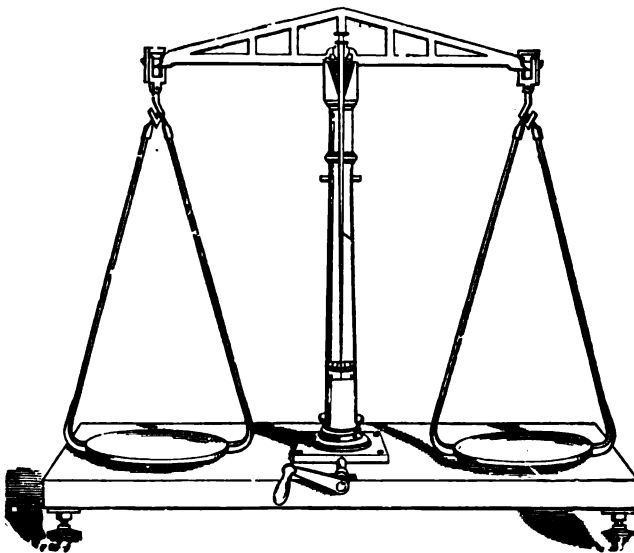
293

- No. 290 **Ball Scale No. 124.** A new and elegant counter scale; our latest modification in weighing apparatus. Scale has 10-in. nickel pan; has extra sliding poise to balance bottles, etc.; will weigh from $\frac{1}{4}$ oz. to 16 lbs. without the use of ordinary weights, elegantly finished in nickel and bronze. In every respect a perfect scale, and saves the cost of a set of weights; dia. of pans 10 in., capacity 16 lbs. \$14.00
- 290a **Ball Scale**, same as above, in Metric Standard, capacity 6 kilos., divisions on the beam 10 grammes 14.00
- 291 **D. F. C. Co.'s New Bullion Scale.** A good scale for all purposes where weighing closer than 2-100 oz. is not required. It is provided with weighing beam and two sliding poises; one side is divided into fifty parts, each part representing 2-100 oz.; the other side is divided into thirty-five parts, each part representing one oz. Troy. A bar with a sliding poise is placed under the weighing beam for the purpose of balancing bullion pan. Capacity 600 oz. Weights included. 25.00
- 291a Capacity 1000 oz. Weights included. 30.00
- 292 **Troemner's Bullion Scale No. 189.** With 6-in. nickel pans; all bearings are of agate, to insure the highest attainable sensibility with endurance. Sliding beam on front, divided into pennyweights and grains, by which the exact weight of an article is quickly ascertained, thus doing away with small weights; a set of weights (12 oz.) is arranged on a platform on front of scale. Scale is sensitive to $\frac{1}{4}$ grain. 18.00
- 293 **Troemner's U. S. Mint Bullion Scales, Fig. 139.** These are strictly first class in every respect, mounted on polished walnut box, with drawer; a full set of weights included.

No.	0	1	2	3	4
Capacity	64	32	16	8	4 oz.
Each	\$24.00	15.00	12.00	10.00	8.00



294



295

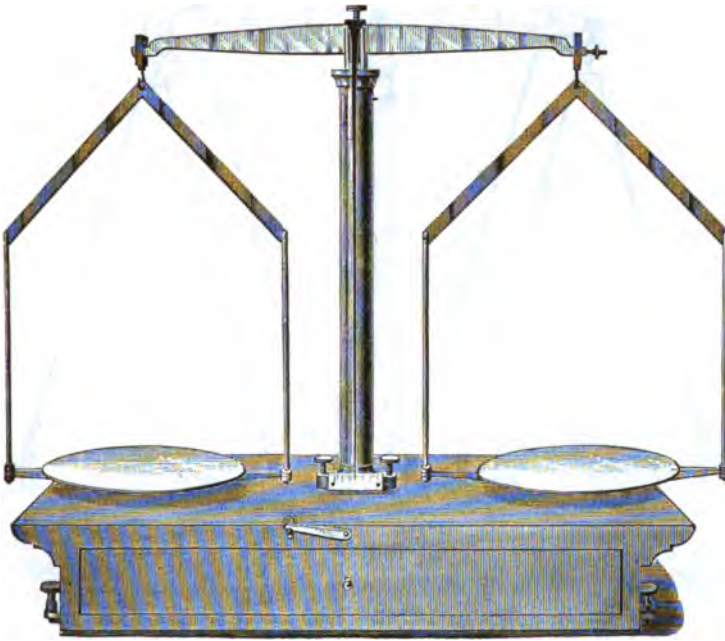
No.
 294 **Troemner's Bullion and Specie Scale No. 24.** Of the very finest finish; in French polished glass case, with counterpoised door, sliding upward; open beam; 8-in. movable nickel pans; capacity, 200 oz. and sensible to $\frac{1}{2}$ grain; has extra pan for loose substances; inside measure of case is 35 in. high, 30 in. wide. Complete with a full set of weights, 50 oz. to 1 grain, being neatly fitted inside of the drawer.....\$ 97.50

294a Same as No. 294, with weights 100 oz. and down (200 oz. in all)..... 107.50



296

- No.
 295 **Troemner's Bullion and Specie Scale No. 170.** With brass beam, pans and bows; improved lifting arrangement; glass level and leveling screws; adjusting screws on beam, etc. Complete with full set of weights; large weights of bronzed iron, from 50 oz. down of brass, in a walnut block; capacity, 500 oz. \$ 95.00
- 295a Same as 295, capacity 1,000 oz. 120.00
- 295b Same as No. 295, capacity 1,500 oz. 150.00
- 296 **Troemner's Bullion and Specie Scale No. 175.** Will carry 2,000 oz. in each pan; open brass beam, pans and arches also of brass, with complex levers to arrest the beam and its hangings; platform of iron, neatly japanned; adjusting screws on beam, glass level and leveling screws; sensible to 1-200 of an oz. Without weights. 210.00
- 296a **Troemner's Bullion and Specie Scale No. 176.** Same as No. 296; capacity 500 oz. in each pan; sensible to 1 grain. Without weights. 160.00



297

No.		
297	Bullion and Specie Scale No. 23. On French polished box with drawer; provided with eccentric for lifting bows and movable pans. For 50 oz. in each pan. Sensible to $\frac{1}{2}$ grain with its full charge.....	\$35.00
297a	Bullion and Specie Scale No. 25. Same as No. 297. For 100 oz. in each pan. Sensible to $\frac{1}{2}$ grain	49.50
297b	Bullion and Specie Scale No. 27. Same as No. 297. For 300 oz. in each pan. Sensible to 1 grain with its full charge.	66.00
298	Bullion and Specie Scale No. 24. Same as No. 297, but in French polished glass case. For 50 oz. in each pan. Sensible to $\frac{1}{2}$ grain.....	55.00
298a	Bullion and Specie Scale No. 26. Same as No. 298, but for 100 oz. in each pan. Sensible to $\frac{1}{2}$ grain	76.00
298b	Bullion and Specie Scale No. 28. Same as No. 298, but for 300 oz. in each pan. Sensible to 1 grain.	100.00



299

No.		
299	Bullion and Specie Scale No. 29. Carrying 500 oz. in each pan. Sensible to 1 grain with its full charge. All bearings agate planes, with new improved construction for the arrestation of beam and pans. Provided with set screws and level.	\$165.00
299a	Bullion and Specie Scale No. 31. Same as No. 299. For 2,000 oz. in each pan. Sensible to 2 grains with its full charge.	210.00
299b	Bullion and Specie Scale No. 33. Same as No. 299. For 5,000 oz. in each pan. Sensible to 2 grains with its full charge.	600.00
300	Bullion and Specie Scale No. 30. In French polished mahogany glass case, with counterpoised front sliding frame. For 500 oz. in each pan. Sensible to $\frac{1}{2}$ grain with that charge	250.00
300a	Bullion and Specie Scale No. 32. Same as No. 300. For 2,000 oz. in each pan. Sensible to 1 grain	300.00
300b	Bullion and Specie Scale No. 34. Same as No. 300. For 5,000 oz. in each pan. Sensible to 1 grain	750.00

Laboratory, Hand and Pocket Scales.



301



303



304

No.

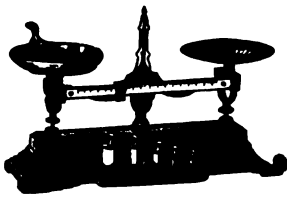
- 301 **Army Prescription Scale No. 9.** On polished box; scale can be taken apart and packed away in drawer of box; all parts nickel-plated; including a set of weights from 2 drams to $\frac{1}{2}$ grain.

Beam	6	7	8 in.
Each	\$3.50	5.00	6.00

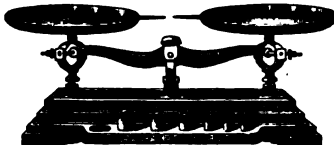
- 303 **Troemner's "Climax" Box Prescription Scale No. 120.** Has $2\frac{1}{2}$ -inch nickel-plated pans; cherry-mahogany box; marble top; hinged cover; reliable and substantial **\$12.50**

- 304 **Troemner's Box Prescription Scale No. 12.** In French polished ebony box with marble top, which has counter-sunk basin in it to hold the weights; pans are of solid nickel; scale is sensible to 1-30 grain; has glass cover provided with stop hinges, all of the finest workmanship, and one of the most popular scales we have ever introduced. To avoid corrosion and cleaning no metal parts are put on the outside of box, excepting the pans and hinges. Pans 3 and $3\frac{1}{2}$ in.

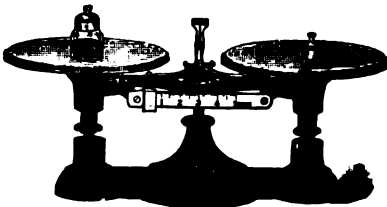
No.	12	13
Each	\$18.00	20.00



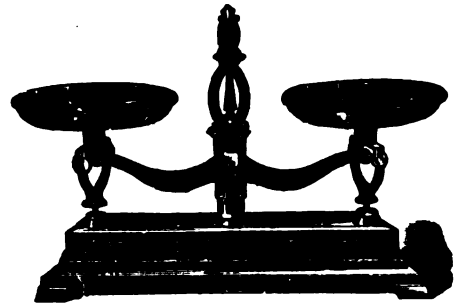
305



306



307



308-309



309a

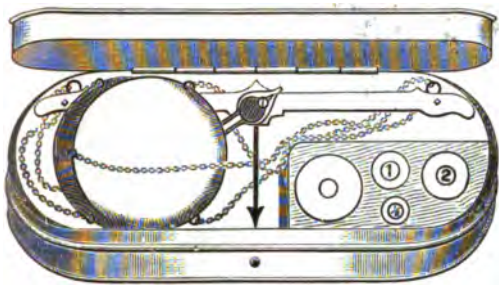
- No. 305 **Troemner's Dispensing Scale No. 6.** With side beam and sliding weight, to weigh 4 oz. Handsomely finished; has 3½-in. nickel-plated movable pans; a side beam in front of scale with a sliding weight; this beam is divided into 120 divisions, each division representing one grain; an extra row of metric divisions is placed on bottom edge of beam, each representing one decigramme. Platform or shelf is attached to base of scale, in which are fitted a set of solid brass Troy weights, 2 oz. and down. Sensible to ½ grain. Capacity 4 oz. \$ 8.00
- 306 **Troemner's Laboratory Scale No. 7.** Specially designed for laboratory and pharmaceutical work; has 6-in. movable nickel pans. Will carry 1 lb. in each pan; sensible to ½ grain; with a full set of weights, running from 8 oz. Troy and down to 1 grain, neatly fitted in a projecting shelf attached to the base. Metric weights furnished in place of Troy when so desired. 9.00
- 307 **Balance, Harvard Trip.** With 2 six-inch round porcelain plates and side beam for laboratory work; capacity, 1 kilogramme to 1-10 gramme. . . 7.50
- 308 **Troemner's Robervahl Scale No. 75.** Neatly ornamented in gold lines; heavy brass pans and brass indicator.
- | No. | 2 | 3 | 4 |
|----------|--------|------|--------|
| Capacity | 15 | 10 | 5 lbs. |
| Pans | 9 | 8 | 6 in. |
| Each | \$7.50 | 6.00 | 5.00 |
- 309 **Robervahl Scale, French Make.** Cheaper, for coarse weighing.
- | | 1 | 2 | 5 | 10 lbs. |
|----------|--------|------|------|---------|
| Capacity | 1 | 2 | 5 | 10 lbs. |
| Pans | 4½ | 5 | 5½ | 7½ in. |
| Each | \$2.75 | 3.25 | 4.00 | 5.00 |
- 309a **Union Scale, with two platforms, No. 508,** especially convenient for a large variety of uses; capacity from ½ oz. to 30 lbs. in the scoop, and to 240 lbs. on the platform, which measures 10½x13½ in. Price with tin scoop. 15.00
- 309b **Union Scale.** A more simple form, with only the large platform, but also with tin scoop. 10.00



310



311



312



313

No. 310 D. F. C. Co.'s No. 60 Brass Scoop Scale, with Japanned Weights. Weighing from 4 lbs. to $\frac{1}{2}$ oz. Scale is strong and well made and accurate; has brass beam **\$3.50**

310a D. F. C. Co.'s Flux Scale. Like No. 310, with side beam graduated to $\frac{1}{4}$ oz.; including set of japanned weights and tin scoop.

Capacity	6	10	16	25 lbs.
Each	\$7.75	10.00	12.75	20.75

311 Troemner's Ebony Box Scale No. 89. With gold lines; gilt dial; heavy nickel-plated pans; marble top.

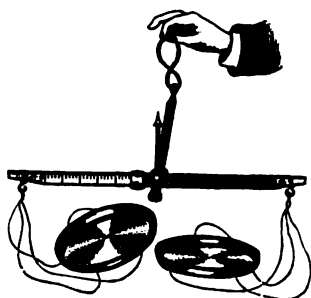
No.	0	1	2
Capacity	10	15	25 lbs.
Pans	7	8	9 in.
Each	\$12.00	14.00	16.00

312 Hand Scales, s. c., "Miner's Pocket Scale," in lacquered box, with set of weights down to $\frac{1}{2}$ grain, inside of box; good bearing and knife edges.

Capacity	1	2	4 oz.
Each	\$2.00	2.50	3.00

313 Hand Scales, with fine brass beams and horn pans, suspended by silk cords, fine steel bearings, very sensitive.

Beam	4	5	6	7	8	10 in.
Pans	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4 $\frac{1}{2}$ in.
Each	\$1.20	1.50	1.75	2.00	2.50	3.00



314



315



316



317



319

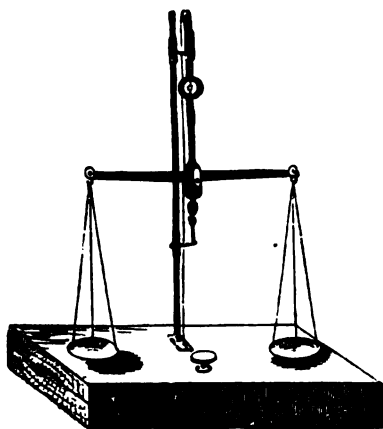


320b



No.	318	320a				
314	Hand Scales, with sliding weight, on graduated brass beam, horn pans, very delicate and sensitive. No weights needed.					
	To weigh 5 grains, divided into 1-10 grain.		\$3.00			
	To weigh 15 grains, divided into $\frac{1}{2}$ grain.		3.50			
	To weigh 25 centigr., divided into $\frac{1}{2}$ centigramme.		3.00			
315	Hand Scales, in box, brass beam and pans, with weights					
316	Scale Pans, with handles.					
	Glass, 2 $\frac{1}{2}$, 2 $\frac{3}{4}$, 3 in	Pair	.40			
	Nickel, 2 $\frac{1}{2}$, 2 $\frac{3}{4}$, 3 in	Pair	.75			
	Aluminum, 2 $\frac{1}{2}$, 2 $\frac{3}{4}$, 3 in.	Pair	.75			
317	Scale Pans, for counter scales, nickel-plated.					
	Size	6	7	8	9	10 in.
	Pair	\$1.00	1.50	2.00	2.50	3.00
318	Scale Pans, of aluminum, for assay balances $\frac{1}{2}$-in. dia. accurately checked. Pair					1.00
318a	Scale Pans, of glass, for assay balances $\frac{1}{2}$-in. dia.; accurately checked. . . Pair					1.50
319	Scale Glass Feet, for holding leveling screws of balances, giving perfect insulation.				Set of four	.40
319a	Scale Rubber Pads, for same purpose				Each	.20
320	Scale Watchglasses, glass, accurately counterpoised; for analytic work. Sizes					
	2 $\frac{1}{2}$, 3, 3 $\frac{1}{2}$ inches diameter	Pair				1.00
320a	Scale Covers of Rubber Sheetting. Dust proof. Made any size to order. In ordering please give exact measures of top of case; also extreme height. Each					1.50
320b	Weighing Capsule, of pure nickel, 4$\frac{1}{2}$ in. long				Each	.40

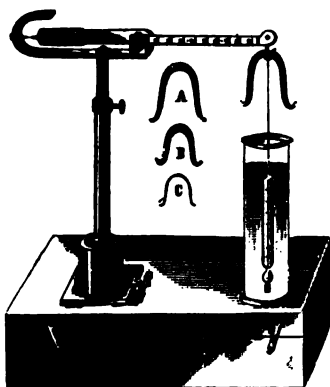
Blow Pipe and Specific Gravity Balances.



321



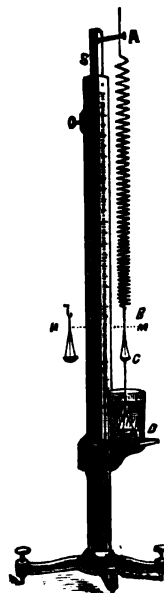
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323

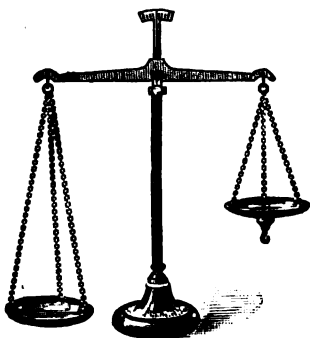


324



325

- | | | |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| No. | | |
| 321 | Plattner's Blow Pipe Balance. For blow pipe analysis, sensible to 1 milligr. Nickel-plated, with set of weights from 1 gramme to 1 milligr.; in polished wooden case. | \$22.50 |
| 322 | Mohr's Specific Gravity Balance. For both liquids and solids, with Reimann's Patent Thermometer, riders, glass cylinder, forceps, also extra pans for regular weighings | 20.00 |
| 323 | Westphal's Specific Gravity Balance. For liquids only; in polished box, with movable support and Reimann's Patent Thermometer | 15.00 |
| 324 | Sartorius' Hydrostatic Balance. For specific gravity determination of liquids, complete in case | 26.50 |
| 325 | Prof. Jolly's Spiral Balance. For rapid and exact determination of the specific gravity of minerals, with 3 assorted spirals, on wooden support and scale on mirror glass. | 17.00 |



326



327



328



328a

- | | | | |
|------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| No. | | | |
| 326 | Balance, Hydrometer Scale. | For specific gravity weighings; 9-inch beam, 5-inch pans; capacity, 100 grammes..... | \$ 6.00 |
| 327 | Balance, Hydrometer Scale. | With adjustable beam rest and rod inside the pillar, so the beam can be raised 6 to 9 inches higher to weigh liquids in cylinders. Beam, 12 inches; pan, 5 inches; capacity, 500 grammes | 12.00 |
| 328 | Balance, Combination. | For regular and specific gravity weighings; beam can be raised on the brass column. Beam, 11 inches; pans, 4 inches; column, 20 inches; capacity, 250 grammes..... | 8.00 |
| 328a | Balance, New "Alward" Triple Beam. | A convenient, time-saving form in chemistry, and physics work, with sliding, non-detachable weights, compactly fitting the beams. Capacity, 111 grammes. The upper beam has centigramme divisions; the middle beam, 1 gramme; the lower beam, 10 grammes. The sensibility is 3 milligrammes with load. Price complete. | 20.00 |



329b



330



330

No.

329b Assay Ton Weights, Ainsworth's.

No. 650 One assay ton to 1-20, brass. Price \$ 4.00

No. 700 Four assay tons to 1-20, brass. Price 6.00

The assay ton contains as many milligrammes (29,166) as there are Troy ounces in a ton (2,000 lbs.) avoirdupois; hence, if one assay ton of ore yields a button weighing one milligramme, the ore carries one ounce to the ton.

330 Gramme Weights, Analytical; Imported. Of the very highest standard of accuracy and precision, either in hinged box or in box with loose cover.

50 grammes down to 1 milligramme and 3 riders, platinum-plated. 15.00

100 " " 1 " " 3 " " " 18.00

50 " " 1 " " 3 " gold-plated 12.00

100 " " 1 " " 3 " " " 15.00

No.

331 Gramme Weights; Troemner's.

	1	platinum	gramme,	down	to	1-10	milligramme		\$ 9.50
	1	"	"	"	"	1-10	"	specialy checked .	11.00
	10	gramme	piece,	down	to	1	milligramme		11.00
	20	"	"	"	"	1	"		12.00
Two	20	"	"	"	"	1	"	and 3 riders.	13.00
	50	"	"	"	"	1	"	" 3 "	14.00
	100	"	"	"	"	1	"	" 3 "	16.00
	200	"	"	"	"	1	"	" 3 "	20.00
	500	"	"	"	"	1	"	" 3 "	24.00
	1000	"	"	"	"	1	"	" 3 "	29.00

332 Grain Weights, Troy; Troemner's.

	10	platinum	grains,	down	to	1-100	grain.		9.50
	10	"	"	"	"	1-1000	"		10.50
	100	grain	piece	down	to	1-100	grain		11.00
	1000	"	"	"	"	1-10	"	and 3 riders	12.00
	1000	"	"	"	"	1-100	"	" 3 "	13.00
	1000	"	"	"	"	1-1000	"	" 3 "	14.00

333 Assay Ton Weights; Troemner's.

	4	A. T.	to	1-20	A. T.		6.00
	1	A. T.	to	1-20	A. T.		4.00

334 Milligramme Weights, platinum; Troemner's. Single.

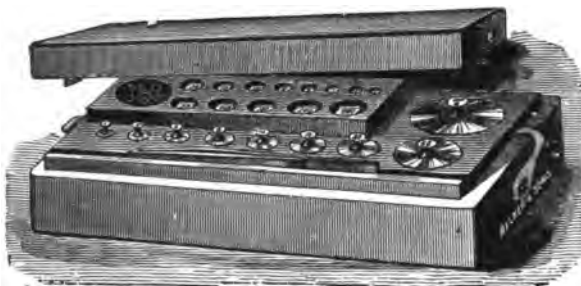
Milligrammes	1000	500	200	100	50	20	10	5	2	1
Each	\$1.50	1.00	.75	.60	.40	.30	.25	.25	.25	.25

335 Milligramme Weights, Fractional.

Set comprising one $\frac{1}{2}$ milligr., two 1-5 milligr., one 1-10 milligr.	1.00
--------------------------------------------------------------------------------	------

336 Riders; Troemner's. Single.

Milligrammes	12	10	6	5	2	1	$\frac{1}{2}$
Each	\$0.25	.25	.25	.25	.40	.40	.50



.337

No.

337 Gramme Weights; Becker's. In French polished boxes lined with velvet, every piece fitted separately and adjusted to the utmost accuracy; brass weights lacquered, the fraction of the gramme are platinum, except those below 20 milligrammes, which are made of aluminum.

No. 1	1	platinum	gramme, down to 1-10 milligramme	.....	\$10.60
No. 2	10	gramme	piece, down to 1-10 milligramme	.....	12.00
No. 3	20	"	" " 1 " and 3 riders	..	14.00
No. 4	50	"	" " 1 " " 3 "	..	16.00
No. 5	100	"	" " 1 " " 3 "	..	18.00
No. 6	200	"	" " 1 " " 3 "	..	24.00
No. 7	500	"	" " 1 " " 3 "	..	28.00
No. 7A	1000	"	" " 1 " " 3 "	..	35.00

338 Gramme Weights; Becker's Imported.

No. 1	1	gramme	down to 1-10 milligramme	.....	9.00
No. 2	10	"	" 1-10 "	.....	11.00
No. 3	20	"	" 1 " and 3 riders	.....	12.00
No. 4	50	"	" 1 " " 3 "	.....	14.00
No. 5	100	"	" 1 " " 3 "	.....	16.00

339 Assay Ton Weights; Becker's.

4 A. T. to 1-20 A. T.	.....	6.00
1 A. T. to 1-20 A. T.	.....	4.00

340 ¹¹ Milligramme Weights, platinum; Becker's. Single.

Milligrammes	500	200	100	50	20	10	5	2	1
Ordinary, each	\$1.00	.75	.75	.50	.35	.35	.35	.30	.30
Specially checked, each	1.50	1.25	1.00	.75	.50	.50	.50	.50	.50

341 Riders, Single; Becker's.

Milligrammes	12	10	6	3	2	1 2-10	1	6-10
Each	\$0.30	.30	.30	.35	.35	.50	.50	.50

For Chemical, Pharmaceutical and Other
Accurate Purposes.



342



346



347

- No. 342 **Milligramme Weights, German Silver.** From 5 down, of aluminum, 500 milligrammes and down to 1 milligramme. Set **\$1.00**
- 343 **Gramme Weights, Oertling's.** In round, ivory box, screw lid.
One gramme to 1 milligramme, with six 1-milligramme riders. . . . Set **12.00**
- 343a **Riders, Oertling's.** 1 milligramme **.25**
- 344 **Riders, Ainsworth's.**

Milligrammes	$\frac{1}{2}$	1	2	5	6	10	12
Ordinary, each	\$0.25	.25	.25	.25	.25	.25	.25
Special checked, each	.50	.50	.50	.50	.50	.50	.50

- 345 **Milligramme Weights, Ainsworth's, Platinum. Single.**

GRADE	Milligrammes	1000	500	200	100	50	20	10	5	2	1
a Error limit	} Price										
+ or —.005 mg.		\$5.00	4.00	3.00	2.00	1.75	1.50	1.25	1.00	1.00	1.00
b Error limit	} Price										
+ or —.01 mg.		2.50	1.75	1.50	1.25	1.00	.75	.60	.50	.50	.50
c Ordinary	} Price										
commercial		1.50	1.00	.85	.75	.60	.40	.30	.25	.25	.25

- 346 **Gramme Weights, imported; well adjusted.** A good quality, which stands between the analytical and cheaper grades, in polished wooden block, to 1 milligramme.

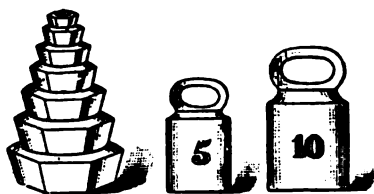
Set of	20	50	100	200	500	1000 grammes.
Price	\$2.00	2.50	3.00	4.00	6.00	8.00

- 347 **Gramme Weights.** Same as No. 346, but in polished velvet-lined case, with hinged cover.

Set of	20	50	100	200	500	1000 grammes.
Price	\$3.00	3.50	4.50	6.00	8.00	10.00



348. No. 12



351

No.

348 **Gramme and Grain Weights; Becker's No. 2.** In mahogany box lined with black velvet; each piece fitted separately; brass weights lacquered, fractions of the gramme platinum.

No. 11	50	gramme down to 1 milligramme	\$ 9.00
No. 13	100	" " 1 "	10.00
No. 18	1000	grain down to 1-100 grain.	10.00
No. 12	100	gramme down to 1 centigramme.	5.50
No. 15	500	" " 1 "	9.50
No. 17	1000	" " 1 "	12.00

349 **Gramme Weights, Becker's No. 2.** In mahogany block.

No. 14	500	grammes down to 1 gramme	6.00
No. 16	1000	" " 1 "	8.50

350 **Gramme Weights, brass.** In block.

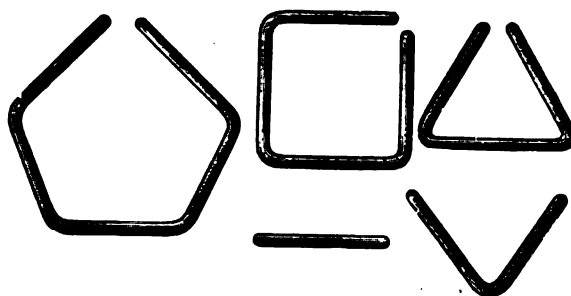
20	grammes down to 1 centigramme	.60
50	" " 1 "	1.00
100	" " 1 "	1.50
500	" " 1 gramme.	2.50
1000	" " 1 "	4.00

351 **Metric Weights of Japanned Iron.** Loose.

1	kilogramme down to 10 gramme.	1.25
2	" " 10 "	2.00
5	" " 10 "	3.50
10	" " 10 "	6.00

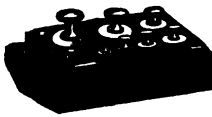
352 **Troy Weights, Brass, Becker's.** In mahogany box lined with velvet. All small weights are of aluminum, fitted separately.

One	1 oz.	piece down to $\frac{1}{2}$ grain	3.50
Two	2	" " $\frac{1}{2}$ "	6.25
One	5	" " $\frac{1}{2}$ "	7.75
One	10	" " $\frac{1}{2}$ "	10.00
One	20	" " $\frac{1}{2}$ "	15.00
One	50	" " $\frac{1}{2}$ "	20.00
Two	100	" " 1 "	30.00
One	200	" " 1 "	40.00

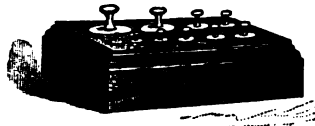


357 and 360

No.			
353	Troy Block Weights of solid brass.	In cherry block.	
	1 oz. down to $\frac{1}{2}$ grain		\$ 1.00
	Two 2 " " $\frac{1}{2}$ "		1.75
	5 " " $\frac{1}{2}$ "		2.50
	10 " " $\frac{1}{2}$ "		4.00
354	Troy Block Weights of brass, highly finished.	In ash block.	
	20 oz. down to $\frac{1}{2}$ grain		7.00
	30 " " $\frac{1}{2}$ "		9.00
	50 " " $\frac{1}{2}$ "		12.50
355	Troy Cup Weights; Troemner's.		
	4 oz. down to $\frac{1}{2}$ oz		1.50
	8 " " $\frac{1}{2}$ "		3.00
	16 " " $\frac{1}{2}$ "		4.00
	32 " " $\frac{1}{2}$ "		5.50
	64 " " $\frac{1}{2}$ "		9.00
356	Aluminum Gramme Weights.		
	1 gramme down to 1 centigramme	Set	.40
357	Troy Aluminum Grain Weights.		
	5 grains down to $\frac{1}{2}$ grain	Set	.25
358	Troy Aluminum Grain Weights. Square, made concave, so they can be picked up readily.		
	10 grains down to $\frac{1}{2}$ grain	Set	.40
359	Decimal Troy Weights, brass, Troemner's.		
	Set of 4-10, 3-10, 2-10, 1-10, 5-100, 4-100, 3-100, 2-100, 1-100 oz.		2.50
360	Decimal Troy Grain Weights.		
	50 grains down to 10 grains, nickel silver.	Set	.60



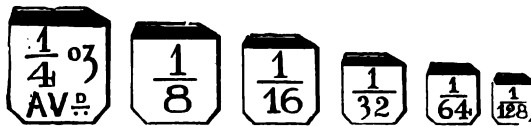
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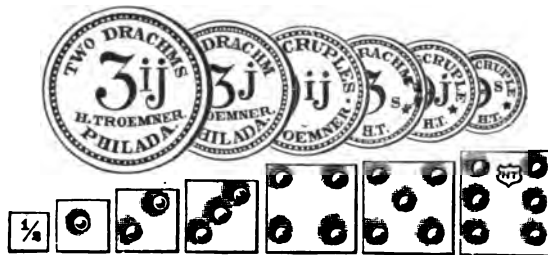
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363-364



365

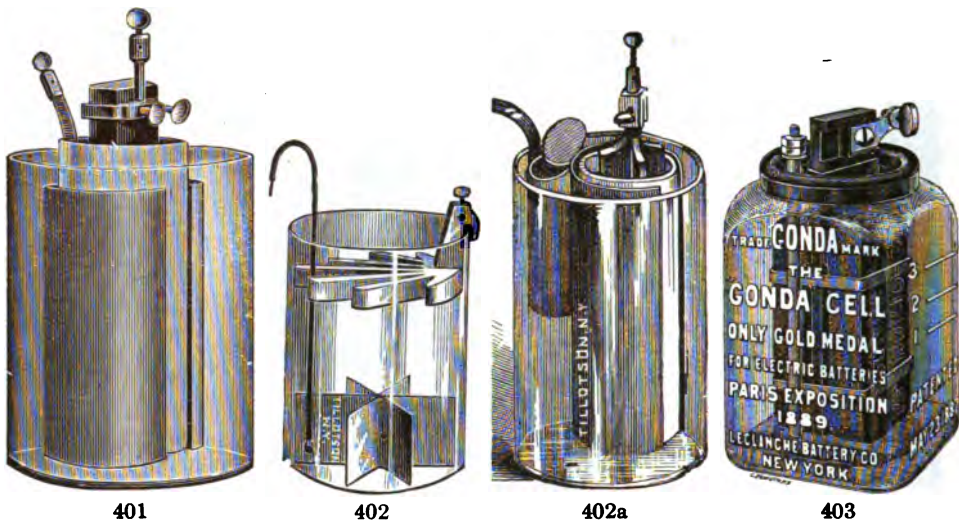


366

No.

361	Avoirdupois Weights brass. In walnut block.	
	1 lb., down to $\frac{1}{8}$ oz.	\$2.50
	2 " " $\frac{1}{8}$ "	3.75
	4 " " $\frac{1}{8}$ "	5.50
362	Avoirdupois Weights, brass. Standard quality; in oiled walnut block, lined with poplar to prevent shrinkage; weights of the finest finish; burnished.	
	1 lb., down to $\frac{1}{8}$ oz.	4.00
	2 " " $\frac{1}{8}$ "	5.50
	4 " " $\frac{1}{8}$ "	7.00
363	Avoirdupois Brass Cased Weights.	
	1 lb., down to $\frac{1}{8}$ oz.	1.25
	2 " " $\frac{1}{8}$ "	1.75
	4 " " $\frac{1}{8}$ "	3.00
364	Avoirdupois Iron Weights. Japanned, loose.	
	1 lb., down to $\frac{1}{8}$ oz. ....	.75
	2 " " $\frac{1}{8}$ "	1.00
	4 " " $\frac{1}{8}$ "	1.50
	7 " " $\frac{1}{8}$ " (15 lbs.)	2.50
	10 " " $\frac{1}{8}$ " (25 lbs.)	4.00
365	Avoirdupois Fractions of Ounces, of nickel silver.	
	$\frac{1}{8}$ oz., down to 1-128 avoirdupois oz. Set	.75
366	Prescription Weights, of nickel silver and brass.	
	2 drachms, down to $\frac{1}{8}$ grain. Set	.25
	6 grains, " $\frac{1}{8}$ " Set	.10
367	Gold Weights. 10 pennyweights, down to $\frac{1}{8}$ grain. Set	.50
368	Sugar Weights. 13.024, 26.048 or 52.096 grammes Each	1.00
370	Sugar Weights. Set of 2, in lined box, normal and $\frac{1}{2}$ normal	2.50

BATTERIES.



No.				
401	Battery, Bunsen's.	With rolled zincs.		
			Size	1 qt.
			Jars	4x5 in.
				2 qts.
				5x6 in.
				1 gal.
				6x8 in.
		Cell, complete	\$1.20	\$1.50
		Parts: Carbon	.10	.20
		Carbon connection	.20	.30
		Carbon clamp	.10	.15
		Glass jar	.25	.30
		Porous cup	.15	.20
		Zinc and connection	.60	.70
				1.00
402	Battery, Crowfoot Gravity.			
		Cell, complete		\$1.00
		Parts: Copper, 6 in.		.20
		Zinc, with hanger and connector		.50
		Jar, 6x8 in		.40
402a	Battery, Daniell's.			
		Cell, complete		1.75
		Parts: Copper, with pocket.		.70
		Porous cup.		.30
		Glass Jar, 6x8 in.		.40
		Zinc.		.45
		Zinc clamp.		.20
403	Battery, Leclanche, "Gonda" Cell.			
		Cell, complete		1.25
		Gondas only		.50
		Zincs only		.05
403a	Battery, Leclanche, "Porous Cup" Cell.			
		Cell, complete		1.00
		Porous cup only		.50
		Zincs only		.05



404



404a



405



405a

No.

404 Battery, Grenet. French form.

Capacity	$\frac{1}{2}$ pt.	1 pt.	1 qt.	$\frac{1}{2}$ gal.	$\frac{1}{2}$ gal. double.
Cell, complete	\$1.20	1.80	2.50	4.00	6.00
Parts: Carbons, each	.20	.30	.40	.50	.50
Zinc	.15	.20	.25	.30	.30

404a Battery, U. S. Storage. Preferable to all others where compactness and high efficiency are wanted.

No. 1.	Capacity 3 ampere hours, $2\frac{1}{2}$ volts	\$1.50
No. 2.	Capacity 5 ampere hours, $2\frac{1}{2}$ volts	2.00
No. 3.	Capacity 15 ampere hours, $2\frac{1}{2}$ volts	4.00

405 Battery, Samson No. 2.

Cell, complete	1.50
Parts: Carbon vase.	1.00
Zinc, cylindrical.	.25
Glass jar.	.25
Rubber cover.	.15
Cork stoppers for re-plugging carbon	.05

405a Battery, "Mesco" Dry Cell. Size $2\frac{1}{2} \times 7$ inches. .30

405b Battery, "Columbia" Dry Cell No. 6. Size $2\frac{1}{2} \times 7$ inches, of superior quality. .40

405c Battery, "Ever Ready" Dry Cell. Size $2\frac{1}{2} \times 6\frac{1}{2}$ in., the best made .50



406a



406b

No.

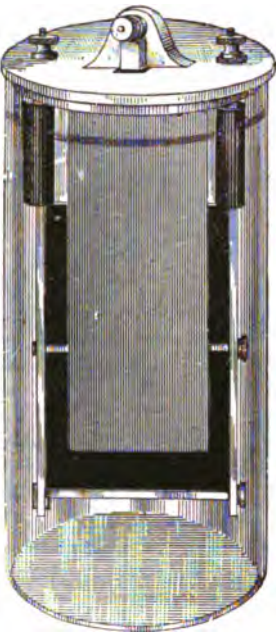
406 **Batteries, Edison Primary.** The most economical and convenient battery on the market. Its advantages are:

- 1st. High and constant available electromotive force.
- 2d. No local action, and therefore, no loss of energy while the cell is idle—the chemical action in cell is less than one per cent. per month.
- 3d. Extremely low internal resistance.
- 4th. Heavy current delivery, absolutely constant.
- 5th. Cheap materials easily obtained.
- 6th. No attention or inspection required until all the energy of its elements is exhausted.
- 7th. Convenience of form and freedom from noxious fumes or chemical deposits. No creeping.
- 8th. No polarization.
- 9th. Will not freeze at lowest temperature.
- 10th. The **Edison Primary Battery** is now made in nine different types, each one of which is specially designed for the kind of work named.

- (a) **Type B. B. Cell, Small Gas Engine Model.** Capacity 100 ampere hours. Complete Cell, with porcelain jar.Net **\$1.50**
- Price of renewal parts:
- | | |
|----------------------------------------------------|------------|
| 1 Copper Oxide Plate (capacity 1 charge) | .24 |
| 1 Zinc Plate (capacity 1 charge). | .28 |
| Can containing 1 charge Caustic Soda | .15 |
| Bottle Special Battery Oil (1 charge) | .05 |
- (b) **Type Q Cell, Small Fan Motor Model.** Capacity 150 ampere hours. Complete Cell, with porcelain jar.Net **2.20**
- Price of renewal parts:
- | | |
|------------------------------------------------------------|------------|
| 2 Zinc Plates (capacity 1 charge) 14c each. | .28 |
| 1 Copper Oxide Plate (capacity 1 charge) | .31 |
| Can containing 1 charge Caustic Soda | .17 |
| Bottle Special Battery Oil (1 charge). | .06 |



406c



406d



406e

- (c) **Type R. R. Cell, Large Gas Engine and Railroad Crossing Model.**
Capacity 300 ampere hours. Complete Cell, with porcelain jar... Net **\$2.90**
Price of renewal parts:
2 Zinc Plates (capacity 1 charge) **25c** each **.50**
1 Copper Oxide Plate (capacity 1 charge) **.55**
Can containing 1 charge of Caustic Soda **.28**
Bottle Special Battery Oil (1 charge) **.07**
- (d) **Type S Cell, Phonograph Model.** Capacity 300 ampere hours.
Complete Cell, with porcelain jar. Net **3.00**
Price of renewal parts:
2 Zinc Plates (capacity 1 charge) **25c** each. **.50**
2 Copper Oxide Plates (capacity 1 charge) **31c** each **.62**
Can containing 1 charge of Caustic Soda **.28**
Bottle Special Battery Oil (1 charge) **.06**
- (e) **Type W Cell, Large Motor and Cautery Model.** Capacity 600 ampere hours. Complete Cell, with porcelain jar. Net **4.85**
Price of renewal parts:
2 Zinc Plates (capacity 1 charge) **41c** each **.82**
2 Copper Oxide Plates (capacity 1 charge) **55c** each **1.10**
Can containing 1 charge Caustic Soda..... **.52**
Bottle Special Battery Oil (1 charge) **.08**



407



408



409



409



409a



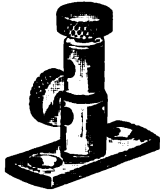
410



410a



410b



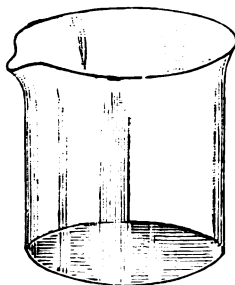
410c

No.								
407	Battery Jars.	Round, of glass, best make.						
		Width	4	4½	5	5	6	8½
		Height	4	5	6	7	8	12
								15 in.
		Each	\$0.20	.25	.30	.40	.50	1.25
								1.75
408	Battery Cells.	Porous, round cups.						
		Width	2	2½	2½	3	3	3 in.
		Height	3	4½	5½	5½	7	8 in.
		Each	\$0.15	.18	.20	.22	.25	.30
409	Battery Connections, Binding Screws.	Finished.						
		Size	Single	Double				
		Each	\$0.10	.15				
409a	Battery Connectors, brass, double							\$0.20
410	Battery Double Connector.	For two wires.						
		Size	Small	Large				
		Each	\$0.05	.10				
410a	Battery Binding Post.	American pattern.						
		Size	Small	Medium		Large		
		Each	\$0.05	.08		.10		
410b	Battery Binding Post, with wood screw.							
		Size	Single	Double				
		Each	\$0.15	.20				
410c	Battery Binding Post, double, with plate to screw to table						Each	.35

BEAKERS.



412



413



414

Note:—Our beakers are equally thin at the bottom and sides, and thoroughly annealed. They are made according to the formula of the late Prof. Weber, of Charlottenburg. This glass is of high resistance to the action of water and chemicals, and has proven of equal practical use as Jena glass.

We offer to our customers this glass of very superior quality, at the following prices, which will be found to be no higher than the price of the ordinary Bohemian glass.

No.

411 Beakers, Bohemian Style, plain form. "Resistance Glass."

Single:	No.	000	00	0	1	2	3	4
	Capacity	$\frac{1}{2}$	1	2	3	6	8	14 oz.
	Each	\$0.05	.07	.08	.10	.12	.17	.22
	No.	5	6	7	8	9	10	
	Capacity	20	28	38	50	65	80 oz.	
	Each	\$0.25	.30	.35	.40	.55	.65	

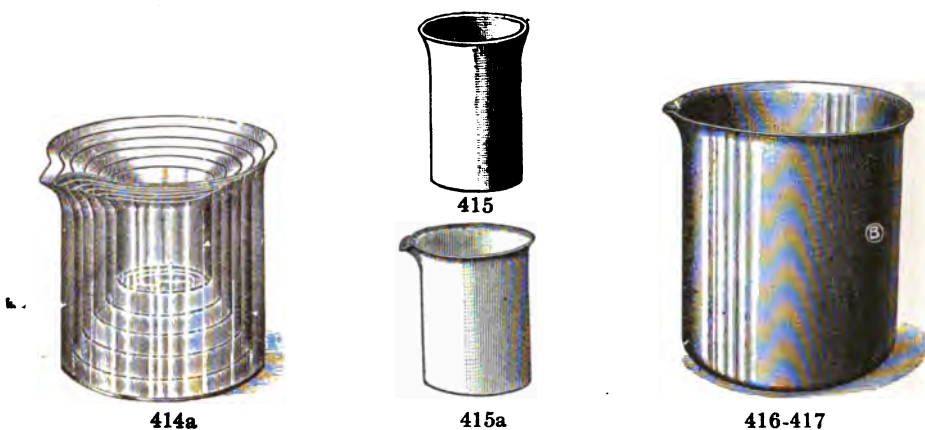
412 Beakers, Bohemian Style, plain form; in nests. "Resistance Glass."

Nests:	No.	000 to 0, in nests of 3,	capacity $\frac{1}{2}$ to 2 oz.	Nest	\$0.20
	0 " 2	" 3,	" 2 " 6 "	"	.30
	1 " 3	" 3,	" 3 " 8 "	"	.35
	1 " 4	" 4,	" 3 " 14 "	"	.55
	1 " 5	" 5,	" 3 " 20 "	"	.70
	1 " 6	" 6,	" 3 " 28 "	"	1.00
	1 " 7	" 7,	" 3 " 38 "	"	1.35
	1 " 8	" 8,	" 3 " 50 "	"	1.60
	1 " 9	" 9,	" 3 " 65 "	"	2.10
	1 " 10	" 10,	" 3 " 80 "	"	2.75

412a Beakers, plain form, for electrolytic copper determination, 110 mm. high, 47 mm. at bottom, 65 mm. at top, each, \$0.20 Dozen 2.00

413 Beakers, Bohemian Style, Griffin's lipped form. "Resistance Glass."

Single:	No.	000	00	0	1	2	3	4	5
	Capacity	$\frac{1}{2}$	1 $\frac{1}{2}$	3	5	8	12	18	24 oz.
	Each	\$0.07	.09	.10	.12	.18	.25	.30	.40
	No.	6	7	8	9	10	11	12	
	Capacity	36	50	64	80	96	112	144 oz.	
	Each	\$0.50	.60	.70	.80	.90	1.00	1.20	



No.

414 Beakers, Bohemian style, Griffin's; in nests. "Resistance Glass."

Nests:	No.	000 to	0, in nests of 3,	capacity $\frac{1}{2}$ to	3 oz.		
	0	" 2	" 3,	" 3	" 8	"	\$0.25
	1	" 2	" 2,	" 5	" 8	"	.35
	1	" 3	" 3,	" 5	" 12	"	.30
	1	" 4	" 4,	" 5	" 18	"	.50
	1	" 5	" 5,	" 5	" 24	"	.80
	1	" 6	" 6,	" 5	" 36	"	1.10
	1	" 8	" 8,	" 5	" 64	"	1.50
	1	" 10	" 10,	" 5	" 96	"	2.50
	1	" 12	" 12,	" 5	" 144	"	3.50
							5.00

414a Beakers, Griffin's extra low form. "Resistance Glass."

Single:	No.	0	1	2	3	4	5
Capacity		3	5	8	12	18	24 oz.
Each		\$0.10	.15	.20	.25	.30	.40
Per set of 6, No. 0 to 5							1.20

414b Beakers, Jena Glass, Griffin's form, lipped.

Capacity	100	150	250	400	600	800 cc.
Each	\$0.15	.20	.25	.30	.35	.40

415 Beakers, Royal Berlin porcelain, glazed, plain.

No.	1	2	3	4
Capacity	6	12	20	32 oz.
Each	\$0.50	.75	1.00	1.40

415a Beakers, Royal Berlin Porcelain, glazed, lipped.

No.	1	2	3	4
Capacity	4	6	8	12 oz.
Each	\$0.40	.50	.60	.70

416 Beakers, Copper, Griffin's form, lipped.

Capacity	8	16	32 oz.
Each	\$0.75	.90	1.25 Plain.
Each	.90	1.20	1.60 Nickel-plated.

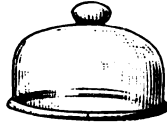
417 Beakers, Aluminum, Griffin's form, lipped.

Capacity	8	16	32 oz.
Each	\$0.80	1.20	1.60

BELL GLASSES.



427



421



425



422



423



424



426

These Bell Glasses have a strong rim at the bottom, and are ground for use with the air pump.

No.

421	Bell Glasses, low form, with knob.							
	Height	1½	2½	3½	4	5	5	8 in.
	Dia.	3	4	5	6	7	8	10 in.
	Each	\$0.45	.60	.75	1.00	1.15	1.45	2.00
422	Bell Glasses, tall form, with knob.							
	Height	6	8	10	12	14	15	18½ in.
	Dia.	3	4	5	6	6½	7½	8½ in.
	Capacity	pt.	qt.	½	1	1½	2	3 gal.
	Each	\$0.50	.70	.85	1.00	1.30	1.75	3.00
423	Bell Glasses, open top, wide opening.							
	Height	6	8	10	12	14	15	18½ in.
	Dia.	3	4	5	6	6½	7½	8½ in.
	Capacity	pt.	qt.	½	1	1½	2	3 gal.
	Each	\$0.50	.70	.85	1.00	1.30	1.75	3.00
424	Bell Glasses, open top, narrow neck for receiving brass cap or stopper.							
	Height	6	8	10	12	15		
	Dia.	3	4	5	6	7½		
	Capacity	pt.	qt.	½	1	2 gal.		
	Each	\$0.50	.70	.85	1.00	1.75		
425	Bell Glasses, swelled form, with knob.							
	Base dia.	4½	6	7½				
	Capacity	qt.	½	1 gal.				
	Each	\$0.70	.85	1.15				
426	Bell Glasses, tubulated, with opening on top and tubulature on side near bottom, for use with filtering pump.							
	Height	8	10 in.					
	Dia.	6	8 in.					
	Each	\$1.25	2.00					
427	Bells, Electric, iron box, nickel-plated gong.							
	Size	2½	3	4 in.				
	Each	\$0.50	.60	.75				

Push Buttons, walnut..... Each \$0.15

BLAST LAMPS.



431



432



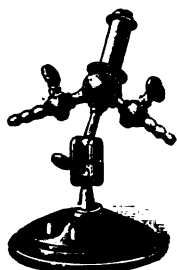
433



434

No.

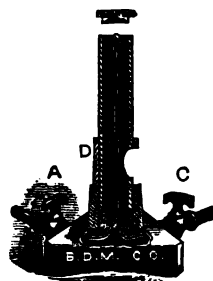
431	Blast Lamp; with safety valve, of copper. For alcohol, giving a horizontal flame	\$3.00
432	Blast Lamp; of copper. For alcohol, giving a vertical flame.	
	Small size	2.00
	Large size	3.00
433	Blast Lamp, Barthel's. For gasoline, on stand, revolves so as to give both vertical and horizontal flame, excluding any danger of explosion.....	8.00
434	Blast Lamp, Bunsen's. For gas, most improved form, complete.....	3.50



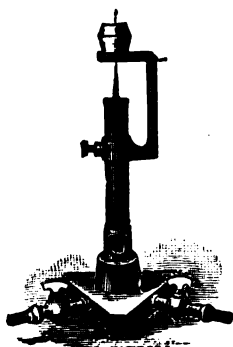
435



435a



436



437d



438

No.		
435	Blast Lamp, Wiesnegg's. French form, for gas, mounted on ball joint	\$ 4.00
435a	Blast Lamp, Turner's Gasoline Laboratory Torch, brass, nickel-plated, capacity one pint, with swiveled burner, can be lighted with a match	4.50
436	Blast Lamp, Fletcher's. With upright blast	3.50
437	Blast Lamp Accessories, used with Fletcher-Plattner blow pipe furnace for capsules or crucibles.	
437a	Blow pipe furnace, with bottom or side hole and 1 crucible . . . . .	.25
437b	Clay crucibles, $\frac{1}{4}$ -in. dia Doz.	.25
437c	Clay capsules Doz.	.25
437d	Furnace support . . . . .	.60
438	Blast Lamp; Fletcher's Compound Blow pipe, for glass workers and experimental laboratories Each	10.00

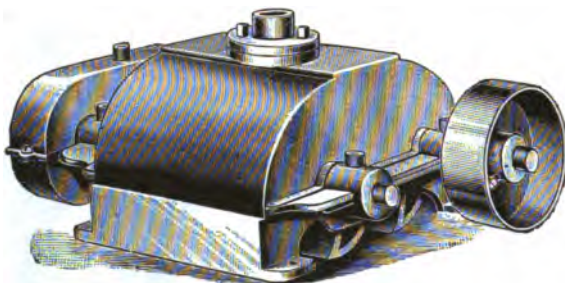
BLOWERS--BELLOWS.



441



442



445

No.	Blowers; Fletcher's Foot Bellows. Giving a continuous blast of air.		
441	No.	9, sml.	9A, med.
	Dia.	7½	9
			9B, lge.
			11 in.
	Each	\$4.00	5.00
			7.00
442	Blowers; Foot Bellows, mounted on legs.		
	No.	10, sml.	10A, med.
	Dia.	7½	9
			10B, lge.
			11 in.
	Each	\$5.00	6.00
			8.00

Note:—The Nos. 9 and 10 Bellows have a single disk; the Nos. 9A and 10A double, and the Nos. 9B and 10B treble disks.

443	Blowers; Extra Rubber Disk for Nos. 9 or 10.....	Each,	\$0.50
	“ “ “ “ “ 9A or 10A.....	“	.75
	“ “ “ “ “ 9B or 10B.....	“	1.00
444	Blowers; Extra Nets for above .....		.35
445	Blowers; Root's Positive Pressure, ¼ B. S.		20.00



446



448



449



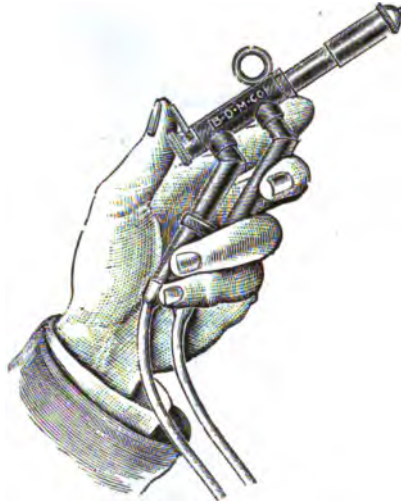
450

No.		
446	Blowers; S. and G. Patent Blow Pipe Pump or Air Compressor. The air chamber is 5-in. dia., 7-in. high, of tinned steel. This device is very valuable to Chemists, Assayers, Dentists, Jewelers and others who desire a strong steady blast, for reducing, fusing, soldering, etc.	\$10.00
447	Blowers; Richard's Waterblast. Direct connection is made with Richard's filter pump, producing simultaneously vacuum and blast. Without filter pump.	7.50
448	Blowers; Richard's. Complete with filter pump	9.00
449	Blowers; Muencke's Waterblast and Exhauster. Nickered brass, with air outlet and water regulating stopcock	10.00
450	Blowers; Hand Bellows, 10-in. diameter, good grade.	1.50

BLOW PIPES.



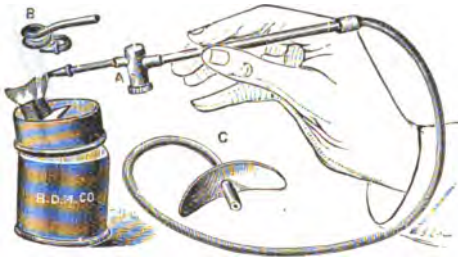
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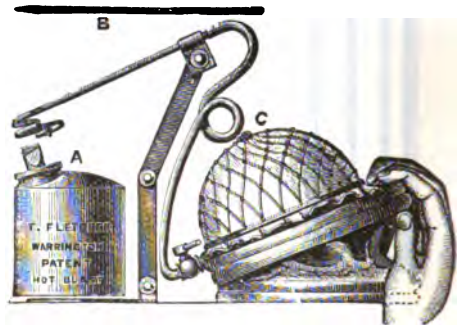
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454-5

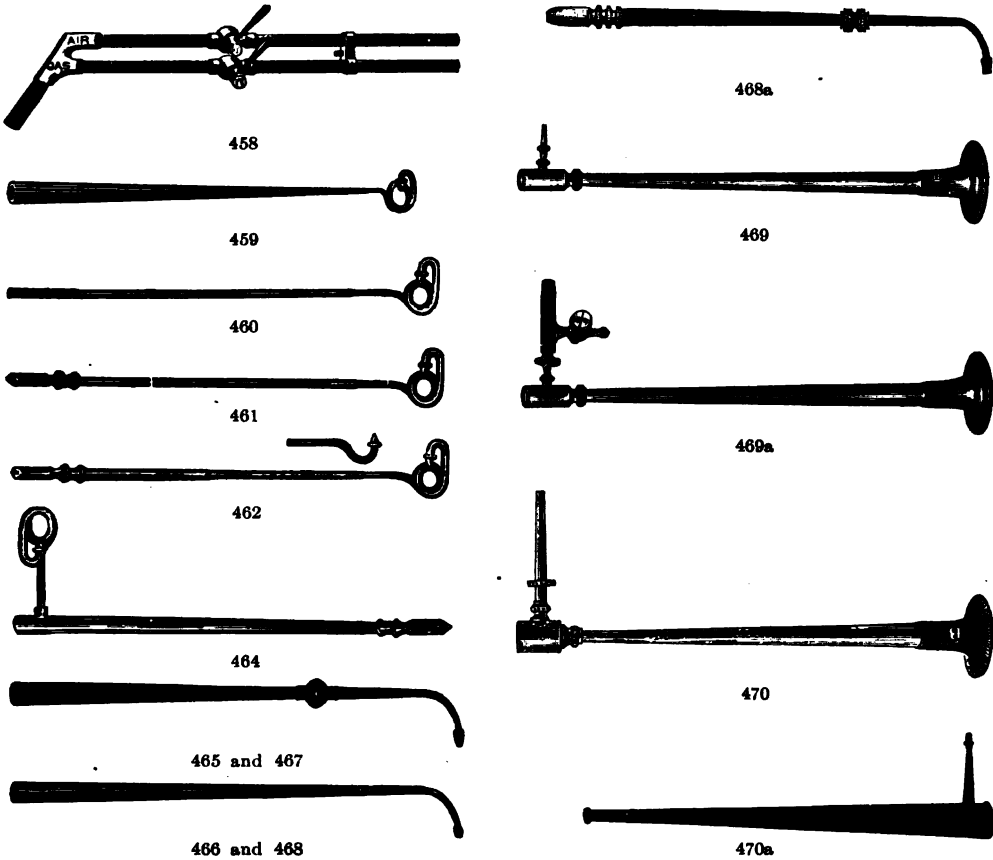


456



457

No.			
451	Blow Pipe; Fletcher's Automaton No. 6A.	On stand	\$4.00
452	Blow Pipe; Fletcher's Automaton Hand No. 6B.	For $\frac{3}{8}$ -in. gas pipe	3.50
453	Blow Pipe; Fletcher's Automaton Hand No. 6C.	For $\frac{1}{2}$ -in. gas pipe	5.00
454	Blow Pipe; Fletcher's No. 6D.	Automaton 6B on stand.	4.00
455	Blow Pipe; Fletcher's No. 6E.	Automaton 6C on stand.	5.50
<p>Note: No. 6B and 6C Automaton Hand Blow pipe will be found a most convenient pattern for small work, brazing, annealing, etc. The No. 6B requires a $\frac{3}{8}$ bore gas pipe and tap. The No. 6C requires for its fullest power a $\frac{1}{2}$-in. clear bore gas pipe and tap. The No. No. 6B requires Blower No. 9A; No.-6C requires Blower No. 9B.</p>			
456	Blow Pipe; Fletcher's New Patent No. 42.	With both cold blast and patent hot blast, two jets, nickel-plated mouth-piece	1.50
457	Blow Pipe; Fletcher's No. 32A.	As illustrated, complete	4.75



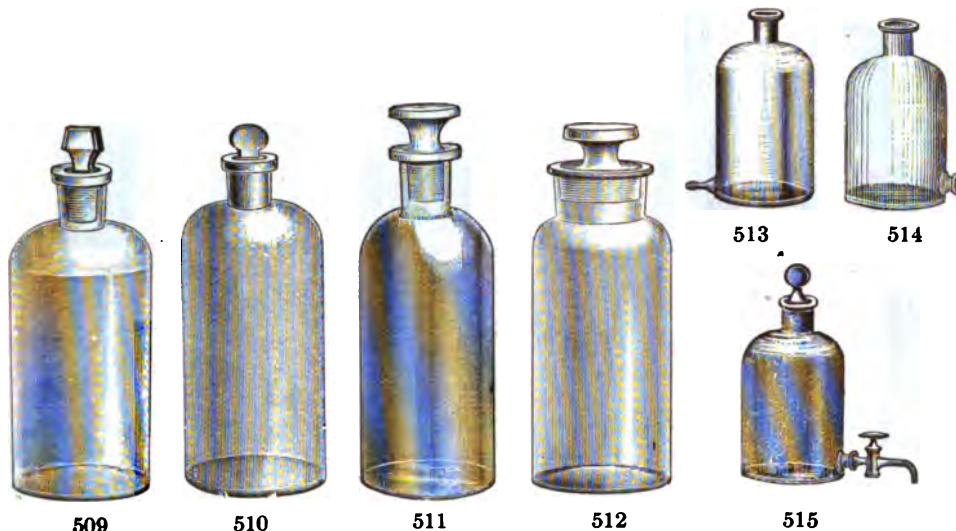
No.		
458	Blow Pipe, for brazing work. With stopcocks	\$2.00
459	Blow Pipe; Fletcher's No. 30. Taper shaft, brass.....	.65
460	Blow Pipe; Fletcher's No. 30A. Straight shaft, brass.....	.55
461	Blow Pipe; Fletcher's No. 30B. Straight shaft, with mouth-piece. ....	.75
462	Blow Pipe; Fletcher's No. 30C. Jointed with both hot and cold blast jets. .	1.00.
464	Blow Pipe; Fletcher's Hot Blast Chemical No. 31. With mouth-piece.....	1.25
465	Blow Pipe; Jeweler's Form. Brass, with air chamber .....	.20
466	Blow Pipe; Jeweler's Form. Brass, without air chamber .....	.15
467	Blow Pipe; Jeweler's Form. Nickel-plated, with air chamber .....	.25
468	Blow Pipe; Jeweler's Form. Nickel-plated, without air chamber .....	.20
468a	Blow Pipe; School of Mines Pattern. With moisture trap, made of brass, with bone mouth-piece.....	.50
469	Blow Pipe; Plattner's. Nickel-plated, with platinum tip and mouth-piece. .	2.50
469a	Blow Pipe; Plattner's. Nickel-plated, with hard rubber mouth-piece and blast attachment for gas	2.25
470	Blow Pipe; Berzelius'. Brass, with platinum plate and mouth-piece	1.50
470a	Blow Pipe; Black's Conical Form. With movable brass tip. ....	.25
471	Blow Pipe Jet Tips. Brass, for all Fletcher's mouth blow pipes.....	Each, .10
472	Blow Pipe Tips. Pure platinum, for Plattner's blow pipes .....	.90
472a	Blow Pipe Tips. Brass, for Black's blow pipes .....	.05
473	Blow Pipe Mouth Pieces. Hard rubber, trumpet shaped, large .....	.35
474	Blow Pipe Mouth Pieces. Horn, small .....	.25
	Blow Pipe Goods, Chemicals and Reagents, according to Prof. Plattner's. For a full line of these, refer to Index, under aforesaid names.	

BOTTLES.

FOR GENERAL USE, FOR SPECIFIC USE AND FOR REAGENTS.



No.	501	502	504	505	506	507	508		
501	Bottles; narrow mouth.	Flint glass; s. c. "Prescriptions."							
	Capacity	1	2	4	8	12	16	32 oz.	
	Doz.	\$0.25	.30	.40	.55	.75	.90	1.40	
	Capacity	$\frac{1}{2}$		1	2 gal.				
	Each	\$0.25		.40	.90				
502	Bottles; wide mouth.	Flint glass; s. c. "Powder Bottles."							
	Capacity	$\frac{1}{2}$	1	2	4	8	12	16	32 oz.
	Doz.	\$0.25	.28	.30	.40	.60	.80	1.00	1.50
503	Bottles; wide mouth.	Green glass; for ore samples, etc.							
	Capacity	4 oz.	$\frac{1}{2}$ gal.		1 gal.		2 gal.		
	Gross	\$4.00	Each		\$0.25	.40	.90		
504	Bottles; extra wide mouth.	Flint glass.							
	Capacity	1	2		4 oz.				
	Doz.	\$0.35		.40	.50				
505	Bottles; extra tall.	For oil samples and other liquids.							
	Capacity	2	4		8 oz.				
	Doz.	\$0.50		.90	1.20				
505a	Bottles; oil sample, long, with nickel-plated screw cap, cork lined, 4 oz. . . .	Doz.						\$1.50	
506	Bottles; homeopathic vials, with patent lip.								
	Capacity	$\frac{1}{2}$	1	2	3	4	6	8 drms.	
	Gross	\$1.00	1.10	1.20	1.50	2.50	3.50	5.00	
507	Bottles; with nickel screw caps.	Round.							
	Capacity	1	2		4	8 Drms.			
	Doz.	\$0.25	.30		.40	.50			
	Gross	2.00	2.50		3.50	5.00			
508	Bottles; glass stoppered; s. c.	"Specimen Bottles."							
	Capacity	1	2		5	10 grammes.			
	Doz.	\$0.50		.60	.70	.80			



No.	509	510	511	512	513	514	515
509	Bottles; glass stoppered. Flint glass, narrow mouth; s. c. "Tinctures."						
Capacity	1	2	4	6	8	12	16 32 ½ gal.
Doz.	\$1.00	1.20	1.40	1.60	1.80	2.00	2.50 3.50 5.00
509a	Bottles; glass stoppered, "Tinctures," same as No. 509, but of amber glass.						
Capacity	1	2	4	8	16	32 oz.	
Doz.	\$1.20	1.40	1.60	2.00	3.00	4.00	
510	Bottles; glass stoppered. Green glass; s. c. "Acid Bottles."						
Capacity	12 oz.	1 pt.	1 qt.	½ gal.	1 gal.	2 gal.	
Each	\$0.15	.20	.25	.30	.50	.90	
511	Bottles; Mushroom stopper, narrow mouth; s. c. "Tinctures."						
Capacity	1	2	4	8	16	32 oz. ½	1 2 gal.
Doz.	\$1.00	1.25	1.50	2.00	2.50	3.00	5.00 7.50 15.00
512	Bottles; Mushroom stopper, wide mouth; s. c. "Salt Mouths."						
Capacity	1	2	4	6	8	12	16 32 oz. ½ gal.
Doz.	\$1.10	1.30	1.50	1.70	2.00	2.25	2.75 4.00 6.00
513	Bottles; Aspirator. With narrow outlet near bottom for rubber tubing.						
Capacity	4 oz.	8 oz.	pt.	qt.			
Each	\$0.40	.45	.60	.80			
514	Bottles; Aspirator. With wide outlet near bottom.						
Capacity	qt.	½	1	2 gal.			
Each	\$0.75	1.00	1.60	3.00			
515	Bottles; Aspirator. With glass stopper and glass stopcock ground into tubulature.						
Capacity	pt.	qt.	½	1	2	8 gal.	
Each	\$1.80	2.00	2.50	3.50	5.00	15.00	



516



517



518



519



520



520a



521



522



523



524

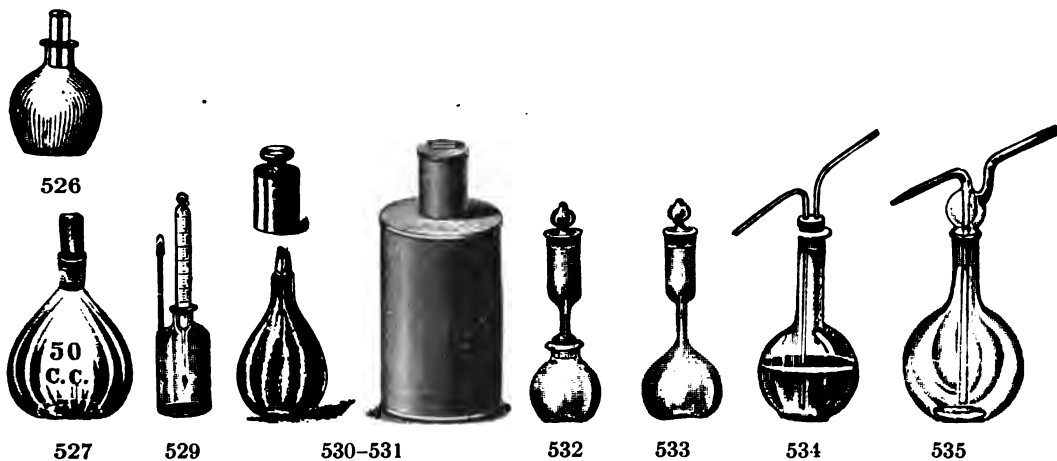


525



525a

No.						
516	Bottles, Balsam.	With glass cap and loose fitting stopper, capacity 1 oz. . . .			\$0.30	
517	Bottles, Cobalt.	With ground in rod stopper, capacity 1 oz. . . . .			.25
518	Bottles, Cobalt.	With ground on glass cap, and long stopper.				
		Capacity	1	2	4 oz.	
		Each	\$0.35	.40	.50	
519	Bottles, Coin or Acid Test.					
		Capacity	1	2 oz.		
		Each	\$0.30	.40		
520	Bottles, Compressing, Lintner's.	For conversions and digestions, cap'y 4 oz.			.50	
520a	Bottles.	Same as No. 520, but with frame			2.00	
521	Bottles, Dropping.	With pipette stopper and rubber bulb, capacity 1 oz. . .			.20	
		capacity 2 oz. . .			.30	
522	Bottles, Dropping, Schuster's.	With stopper.				
		Capacity	1	2 oz.		
		Each	\$0.25	.30		
523	Bottles, Dropping, "Patent Dropper."					
		Capacity	$\frac{1}{2}$	1	2 oz.	
		Each	\$0.20	.25	.30	
523a	Bottles, Dropping, "Patent Dropper."	Amber colored, capacity 1 oz. . . . .			.25
524	Bottles, Dropping or Acid Bottle.	With ball stopper.				
		Capacity	1	2 oz.		
		Each	\$0.45	.50		
525	Bottles, Mixing.	Graduated and glass stoppered.				
		Capacity	250	500	1000	2000 cc.
		Each	\$1.00	1.50	2.50	4.00
525a	Bottles of Earthenware, for mercury, etc.					
		Capacity	2	4	8	16 oz.
		Doz.	\$0.60	.90	1.20	1.50



No.						
526	Bottles, Specific Gravity, unadjusted, for self adjustment, perforated stopper.					
	Capacity	10	25	50cc.		
	Each	\$0.25	.30	.40		
527	Bottles, Specific Gravity, accurately adjusted, perforated stopper.					
	Capacity	10	25	50	100 cc.	
	Each	\$0.60	.80	1.00	1.20	
528	Bottles, Specific Gravity, adjusted in grains.					
	Capacity	250	500	1000 grains.		
	Each	\$0.70	.85	1.00		
529	Bottles, Specific Gravity, Geissler's, with thermometer ground into neck, and capillary tube.					
	Capacity	10	25	50 cc.		
	Each	\$2.75	3.00	3.25		
530	Bottles, Specific Gravity, same as No. 527, with tare weight, in lacquered tin box.					
	Capacity	10	25	50	100 cc.	
	Each	\$1.25	1.50	2.00	2.50	
531	Bottles, Specific Gravity, same as No. 528, with tare weight, in lacquered tin box.					
	Capacity	250	500	1000 grains.		
	Each	\$1.50	1.75	2.00		
532	Bottles, Specific Gravity, Regnault's. With wide mouth for solids.					
	Capacity	25	50 cc.			
	Each	\$0.50	.60			
533	Bottles, Specific Gravity, Regnault's. With narrow mouth for liquids.					
	Capacity	25	50cc.			
	Each	\$0.40	.50			
534	Bottles, Wash Bottles; Fresenius. Complete with rubber stopper.					
	Capacity	4	8	12	16	24 32 oz.
	Each	\$0.35	.40	.45	.50	.60 .75
535	Bottles, Wash Bottles; Drechsel's. All glass.					
	Capacity	8	16	32 oz.		
	Each	\$1.00	1.25	1.50		



536



537



538



539



539a



540



541



542

No.

536 Bottles, Wash Bottles; Langbein's; with two glass stopcocks.

Capacity	8	16 oz.
Each	\$2.50	2.75

537 Bottles, Weighing, for filters. Wide mouth and ground hollow stopper.

Height	50	50	50	65	75 mm.
Dia.	20	30	40	12	15 mm.
Each	\$0.30	.35	.40	.25	.30

538 Bottles, Weighing, Conical Form, with light stopper.

Capacity	1	2	4 oz.
Each	\$0.40	.50	.60

539 Bottles, Weighing, two tubes, one fitting into the other.

Length	70	75	80 mm.
Dia.	15	20	25 mm.
Each	\$0.20	.25	.30

539a Bottles, Weighing Support. Of brass, to be used upright or horizontal. \$1.50

540 Bottles, Woulff Bottles, with 2 necks.

Capacity	$\frac{1}{4}$	$\frac{1}{2}$	1 pt.	1 qt.	$\frac{1}{2}$	1	2 gal.
Each	\$0.40	.45	.50	.85	1.25	2.25	4.00

541 Bottles, Woulff Bottles, with 3 necks.

Capacity	$\frac{1}{4}$	$\frac{1}{2}$	1 pt.	1 qt.	$\frac{1}{2}$	1	2 gal.
Each	\$0.45	.50	.55	.90	1.40	2.50	4.50

542 Bottles, Woulff Bottles, with 3 necks and tubulature near bottom.

Capacity	1 pt.	1 qt.	$\frac{1}{2}$	1	2 gal.
Each	\$1.00	1.25	1.75	2.75	4.75

Reagent Bottles with Ground Glass Labels.



543

N. B.—These bottles have the chemical names and equivalents in raised letters ground on the surface. They are made from glass containing no lead, zinc or other metallic flux. Please order by numbers.

Note:—Any names not on the list can be engraved on the bottles at small extra charge.

No. 543 **Reagent Bottles.** Capacity, $\frac{1}{4}$ pt. = 4 oz. = 125 cc. Height, $5\frac{1}{4}$ in., Doz., Net **\$1.75**

No.	No.
1. Hydrogen Sulphide (Amber) H_2S	20. Barium Chloride $BaCl_2$
2. Hydrochloric Acid HCl	21. Calcium Chloride $CaCl_2$
3. Acetic Acid $HC_2H_3O_2$	22. Calcium Sulphate $CaSO_4$
4. Sulphuric Acid H_2SO_4	23. Calcium Hydroxide $Ca(OH)_2$
5. Nitric Acid HNO_3	24. Magnesium Sulphate $MgSO_4$
6. Potassium Ferrocyanide $K_4Fe(CN)_6$	25. Mercuric Chloride $HgCl_2$
7. Potassium Sulphocyanide $KCNS$	26. Silver Nitrate (Amber) $AgNO_3$
8. Potassium Carbonate K_2CO_3	27. Lead Acetate $Pb(C_2H_3O_2)_2$
9. Potassium Sulphate K_2SO_4	28. Ferrous Sulphate $FeSO_4$
10. Potassium Iodide KI	29. Ferric Chloride Fe_2Cl_6
11. Potassium Ferricyanide $K_3Fe(CN)_6$	30. Alcohol C_2H_5OH
12. Potassium Hydroxide KOH	31. Ammonium Sulphocyanide NH_4CNS
13. Potassium Dichromate $K_2Cr_2O_7$	32. Barium Hydroxide $Ba(OH)_2$
14. Sodium Phosphate Na_2HPO_4	33. Barium Carbonate $BaCO_3$
15. Ammonium Hydroxide NH_4OH	35. Ether $(C_2H_5)_2O$
16. Ammonium Sulphide (Amb.) $(NH_4)_2S$	36. Cupric Sulphate $CuSO_4$
17. Ammonium Chloride NH_4Cl	38. 39, 40 Blank.
18. Ammonium Carbonate $(NH_4)_2CO_3$	59. Sodium Carbonate Na_2CO_3
19. Ammonium Oxalate $(NH_4)_2C_2O_4$	61. Sodium Hydroxide $NaOH$

543a 1 set of above 40 bottles, packed in shipping order Set, Net **\$ 6.00**

543b 1 set of above 40 bottles, filled with chemically pure reagents, according to Fresenius; bottles included Set, Net **12.50**

No.

543c Reagent Bottles. Same style as No. 543; capacity 4 oz. Doz., Net **\$1.75**

No.

37. Platinic Chloride PtCl_4
 58. Fehling's Solution.
 59. Sodium Carbonate. Na_2CO_3
 60. Sodium Acetate $\text{NaC}_2\text{H}_3\text{O}_2$
 61. Sodium Hydroxide NaOH
 77. Ammonia NH_3
 81. Stannous Chloride SnCl_2
 82. Ammonium Molybdate $(\text{NH}_4)_2\text{MoO}_4$
 83. Carbon Disulphide. CS_2
 86. Mercurous Nitrate $\text{Hg}_2(\text{NO}_3)_2$
 87. Indigo Solution.
 88. Nessler's Solution.
 90. Magnesia Mixture.
 93. Oxalic Acid $\text{H}_2\text{C}_2\text{O}_4$
 94. Picric Acid $\text{C}_6\text{H}_3\text{OH}(\text{NO}_2)_3$
 96. Potassium Chromate. K_2CrO_4

No.

97. Ammonium Sulphydrate. NH_4HS
 100. Mercuric Potassium Iodide.
 401. Barium Nitrate $\text{Ba}(\text{NO}_3)_2$
 404. Silver Sulphate. Ag_2SO_4
 406. Bromine Water.
 407. Chloroform CHCl_3
 408. Cochineal.
 409. Coralline.
 410. Litmus.
 411. Methyl Orange.
 412. Phenolphthalein.
 413. Turmeric.
 414. Iodine Solution. $\text{I} + \text{KI}$
 415. Methyl Alcohol. CH_3OH
 416. Sodium Cobaltic Nitrite.
 417. Sodium Hyposulphite $\text{Na}_2\text{S}_2\text{O}_3$

544 Reagent Bottles. Capacity, $\frac{1}{2}$ pt. = 8 oz. = 250 cc. Height, $6\frac{1}{2}$ in. Doz., Net **\$2.25**

No.

101. Sulphuric Acid, Con. H_2SO_4
 102. Sulphuric Acid, Dil H_2SO_4
 103. Nitric Acid, Con. HNO_3
 104. Nitric Acid, Dil HNO_3
 105. Hydrochloric Acid, Con. HCl
 106. Hydrochloric Acid, Dil HCl
 107. Hydrogen Sulphide (Amb.) H_2S
 108. Ammonium Hydroxide. NH_4OH
 109. Ammonium Chloride NH_4Cl
 110. Ammonium Carbonate $(\text{NH}_4)_2\text{CO}_3$
 111. Sodium Hydroxide NaOH

No.

112. Sodium Carbonate. Na_2CO_3
 114. Barium Chloride. BaCl_2
 116. Blank.
 122. Ammonium Sulphide (Amb.) $(\text{NH}_4)_2\text{S}$
 129. Sodium Phosphate. Na_2HPO_4
 130. Ammonium Oxalate $(\text{NH}_4)_2\text{C}_2\text{O}_4$
 131. Acetic Acid. $\text{HC}_2\text{H}_3\text{O}_2$
 145. Silver Nitrate (Amber) AgNO_3
 150. Potassium Hydroxide KOH
 151. Calcium Hydroxide $\text{Ca}(\text{OH})_2$
 152. Lead Acetate $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$

545 Reagent Bottles. Capacity, 1 pt. = 500 cc. Height, $7\frac{1}{2}$ in. Doz., Net **\$3.25**

No.

204. Ammonium Hydroxide. NH_4OH
 211. Blank.
 215. Sulphuric Acid H_2SO_4
 215a. Sulphuric Acid, Dil $\text{H}_2\text{SO}_4 + \text{Aq}$

No.

216. Nitric Acid HNO_3
 216a. Nitric Acid, Dil $\text{HNO}_3 + \text{Aq}$
 217. Hydrochloric Acid. HCl
 217a. Hydrochloric Acid, Dil. $\text{HCl} + \text{Aq}$

546 Reagent Bottles. Capacity, 1 qt. = 1 litre. Height, $9\frac{1}{2}$ in. Doz., Net **\$4.00**

No.

501. Sulphuric Acid, Con. H_2SO_4
 502. Sulphuric Acid, Dil H_2SO_4
 503. Nitric Acid, Con. HNO_3
 504. Nitric Acid, Dil. HNO_3

No.

505. Hydrochloric Acid, Con. HCl
 506. Hydrochloric Acid, Dil. HCl
 511. Blank.



550

No. 547 **Reagent Bottles.** Capacity, 1 oz.=30 cc. Height, 3½ in. Doz., Net **\$1.25**

No.
325. Silver Nitrate (Amber) . . . AgNO_3
326. Cobaltous Nitrate $\text{Co}(\text{NO}_3)_2$
327. Platinic Chloride PtCl_4

No.
336. Gold Chloride AuCl_3
341. Blank.

No. 548 **Reagent Bottles; wide mouth.** Capacity, 1 oz.=30 cc. Height, 3½ in. Doz., Net **\$1.35**

No.
350. Sodium Carbonate. . . . Na_2CO_3
351. Borax. $\text{Na}_2\text{B}_4\text{O}_7$
353. Sodium Acetate $\text{NaC}_2\text{H}_3\text{O}_2$
354. Potassium Nitrate KNO_3
358. Potassium Cyanide . . . KCN
361. Am. Sod. Phosphate . . $\text{NaNH}_4\text{HPO}_4$
364. Copper. Cu
365. Ferrous Sulphate FeSO_4
366. Ferrous Sulphide FeS

No.
367. Potassium Chlorate . . KClO_3
368. Potassium Ferricyanide $\text{K}_3\text{Fe}(\text{CN})_6$
369. Sodium Bitartrate . . . $\text{NaHC}_4\text{H}_4\text{O}_6$
370. Sodium Nitrate NaNO_3
371. Starch.
372. Test Paper.
373. Zinc.
374. Ammonium Phosphate $(\text{NH}_4)_2\text{HPO}_4$
375. Blank.

No. 549 **Reagent Bottles; wide mouth.** Capacity, 4 oz.=125 cc. Height, 4½ in. Doz., Net **\$2.00**

No.
301. Sodium Carbonate. . . . Na_2CO_3
302. Potassium Nitrate KNO_3
303. Potassium Cyanide . . . KCN
304. Borax. $\text{Na}_2\text{B}_4\text{O}_7$

No.
305. Ferrous Sulphate FeSO_4
307. Blank.
312. Test Paper.
313. Sod. Ammon. Phosphate.

550 **Reagent Bottle Caps.** To protect stoppers and mouth of bottles from dust.
Size to fit 4 8 16 32 oz. Bottles.

Doz. **\$1.00 1.00 1.00 1.00**

550a **Brooms.** Miners' Whisks, well made. Each, **\$0.30**; Doz., **\$3.00**

BRUSHES.



No.		553	555	556	557	559	561	562
551	Brushes; spun glass. For acids.....							Each \$0.25
552	Brushes; camel hair pencils.							
	Size		Small		Medium		Large	
	Doz.		\$0.15		.20		.30	
553	Brushes; camel hair. Extra large stock $\frac{1}{2}$ in. dia., quill holder.....							Each .20
554	Brushes; camel hair. Stock 1-in. dia., quill holder, wooden handle.....							.75
555	Brushes; camel hair, flat, tin bound. Wooden handle; for scale pans, etc.							
	Width		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3 in.
	Each		\$0.15	.20	.25	.30	.45	.60
556	Brushes; camel hair, flat, hard rubber bound. Wooden handle.							
	Width		1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3 in.	
	Each		\$0.60	.80	1.00	1.25	1.75	
556a	Brushes; bristle, for test tubes. Bristle end, on tinned iron wire. Each 5c;							
	Doz .....							.30
557	Brushes; bristle, for test tubes. With sponge ends; these are superior inas-							
	much as the brass wire holding the sponge is twisted in a loop, thus							
	protecting the test tubes from breakage.							
	Size		for $\frac{3}{8}$ in.		for $\frac{1}{4}$ in. t. t.			
	Doz.		\$0.75		.85			
558	Brushes; bristle, for long tubes, burettes, etc. Three feet long.....							Each .15
559	Brushes; bristle, for narrow tubes. Two inches length of bristle.....							Doz. .20
560	Brushes; bristle, for cylinder, large tubes, bottles, etc. Wire handle.							
	Length		10	12	15	20 in.		
	Each		\$0.20	.25	.30	.35		
561	Brushes; bristle, wood handle. For beakers.....							Each .25
562	Brushes; bristle, round stiff. For brushing out platinum crucibles, etc....							.15



567



570



565



566



566a



564



568

No.								
563	Brushes, bristle, flat, hard rubber bound. Wooden handle.							
	Width	1	1½	2	2½	3 in.		
	Each	\$0.30	.40	.60	.80	1.00		
564	Brushes; bristle, for assay buttons, Freiberg pattern. Genuine bristle set in firmly.				Each \$0.50			
565	Brushes; bristle, for buck board cleaning, flat. Well set in block.							
	Width	3	3½	4	5 in.			
	Each	\$0.60	.70	.80	1.00			
566	Brushes; bristle, for buck board cleaning, D. F. C. Co.'s Special, flat, tin bound. Good solid stock, firmly set.							
	Width	3	3½	4	5 in.			
	Each	\$0.80	1.00	1.20	1.50			
566a	Brushes; bristle, for buck board cleaning, flat, rubber set.							
	Width	3	3½	4	5 in.			
	Each	\$1.00	1.25	1.50	2.00			
567	Brushes; bristle, for buck board cleaning, flat. Rounded handle of extra quality stiff bristles; width 8 in.; length below binding 2½ in.				1.25			
568	Brushes; for buck board cleaning				.75			
569	Brushes; bristle, for buck board cleaning, softer than foregoing.							
	No.	6	7	8	9			
	Length of brush	6	10	10	10 in.			
	Length of bristle	2½	2½	3½	4 in.			
	Each	\$1.00	1.25	1.50	2.00			
570	Brushes; wire, for scouring bullion. Double end.							
	Steel							.50
	Brass							.50

Burettes for Scientific Work.



571



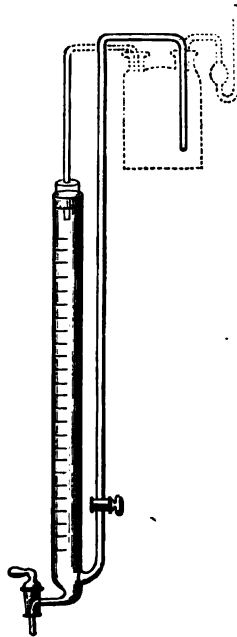
572



573



574



575

No.

571 Burettes; Mohr's. Most accurately graduated, for pinchcocks; with tip and rubber connection.

Capacity	25	50	100	100 cc.
Grad.	1-10	1-10	1-5	1-10 cc.

Each	\$0.80	1.30	1.70	2.00
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572 Burettes; Mohr's, with side filling tube. For pinchcocks, with tip and rubber connection.

Capacity	25	50	100	100 cc.
Grad.	1-10	1-10	1-5	1-10 cc.

Each	\$1.00	1.50	2.00	2.40
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573 Burettes; Mohr's with Geissler's glass stopcock.

Capacity	25	50	100	100 cc.
Grad.	1-10	1-10	1-5	1-10 cc.

Each	\$1.50	2.00	2.40	2.75
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574 Burettes; Fresenius', with glass stopcock.

Capacity	25	50	100 cc.
Grad.	1-10	1-10	1-10 cc.

Each	\$1.50	2.00	2.75
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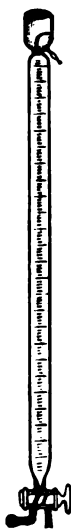
575 Burettes; Gawalowsky's, with glass stopcock and glass side tube with stopcock, for filling from reservoir.

Capacity	25	50	100 cc.
Grad.	1-10	1-10	1-10 cc.

Each	\$3.00	3.50	4.50
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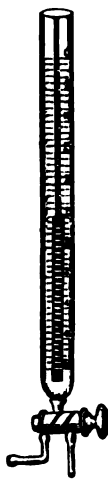
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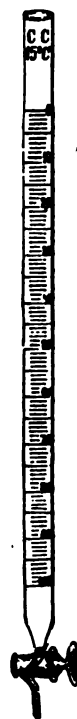
576a



577-8



579



580

No.

576 Burettes; Patent, with 3 ways glass stopcock and tube for filling from reservoir.

Capacity	25	50	100 cc.
Grad.	1-10	1-10	1-10 cc.
Each	\$2.25	3.00	4.00

576a Burettes; Patent, Automatic, with zero point and overflow reservoir.

Capacity	25	50	100 cc.
Grad.	1-10	1-10	1-10 cc.
Each	\$3.00	3.50	4.50

577 Burettes; Schellbach's. With dark enameled stripe on white enamel background, giving a definite meniscus; with tip and rubber connection.

Capacity	25	50	100 cc.
Grad.	1-10	1-10	1-10 cc.
Each	\$1.20	1.75	2.75

578 Burettes; Schellbach's, with glass stopcock.

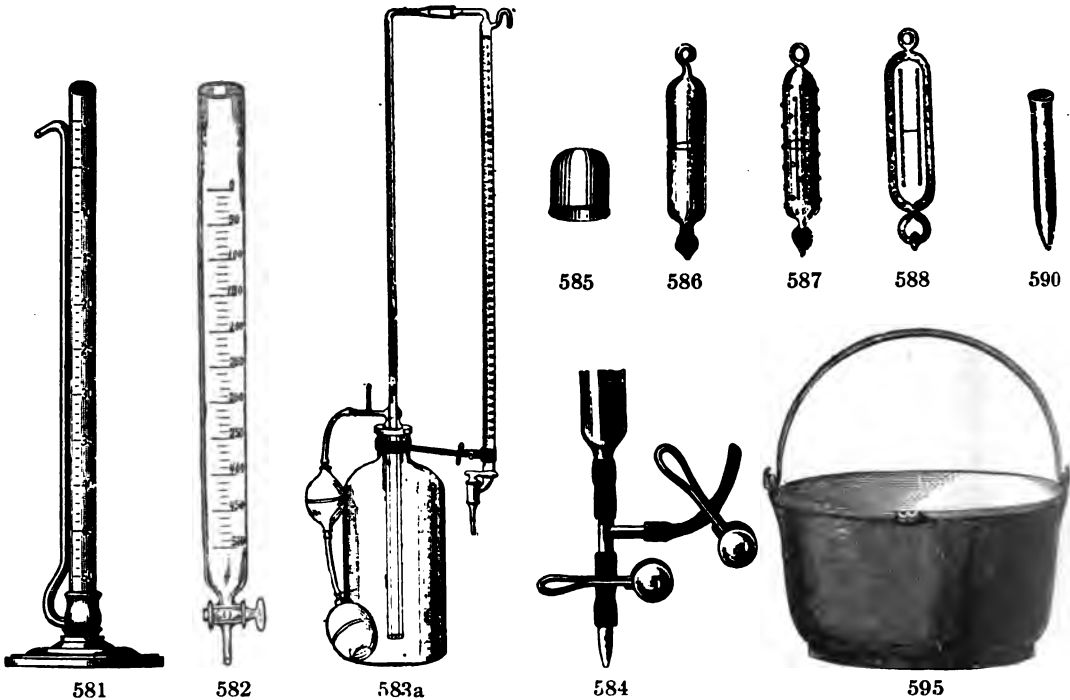
Capacity	25	50	100 cc.
Grad.	1-10	1-10	1-10 cc.
Each	\$2.00	2.50	3.50

579 Burettes; Schellbach's, with patent stopcock.

Capacity	25	50	100 cc.
Grad.	1-10	1-10	1-10 cc.
Each	\$2.25	3.00	4.00

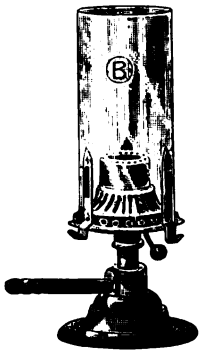
580 Burettes; D. F. C. Co.'s. With absolutely tight stopcock, bored at an angle of 45 degrees.

Capacity	25	50	100 cc.
Grad.	1-10	1-10	1-10 cc.
Each	\$1.50	2.00	3.00



No.							
581	Burettes; Gay Lussac's.	On polished wooden base.					
	Capacity	25	50	100 cc.			
	Grad.	1-10	1-10	1-5 cc.			
	Each	\$1.00	1.50	2.00			
582	Burettes; Dispensing, with glass stopcock.	For liquids in larger quantities.					
	Capacity	250	500	1000 cc.			
	Each	\$3.00	4.00	5.00			
583	Burettes; Dispensing, without stopcock.	For liquids in larger quantities.					
	Capacity	250	500	1000 cc.			
	Each	\$2.00	3.00	4.00			
583a	Burette Titration Apparatus.	Ground joints, with automatic zero point.					
	Burette, complete with bottle, rubber bulb and clamp.						
	Capacity, 25 cc., 1-10.						\$5.00
	Capacity, 50 cc., 1-10.						6.00
584	Burette Attachment.	For connecting the burette with reservoir, complete, as per sketch					.50
585	Burette Caps.	To protect contents of burettes from dust, assorted.	Doz.				.50
586	Burette Float, Erdmann's		Each				.30
587	Burette Float, Volhard's.	With points to prevent adhering to walls.	Each				.50
588	Burette Float, Benedikt's		Each				.50
589	Burette Float, Beutell's		Each				.40
590	Burette Tips.		Each, \$0.05; Doz.				.30
595	Buckets; Amalgam or Quicksilver.	Of iron, inside white enamel.					
	Capacity	2	3	4	6	8	12 qts.
	Each	\$0.40	.50	.60	.70	.80	1.00

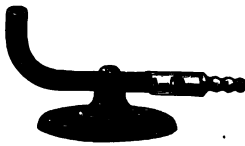
BURNERS.



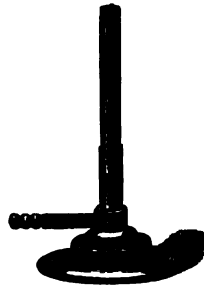
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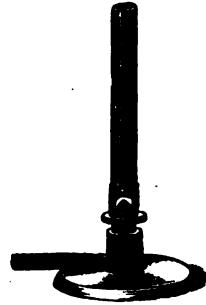
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602



603



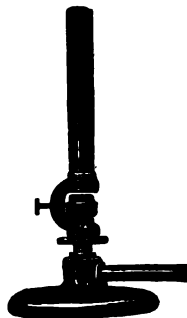
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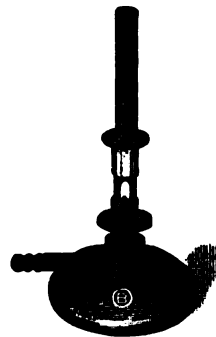
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607

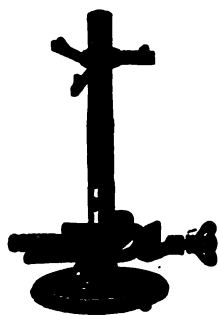


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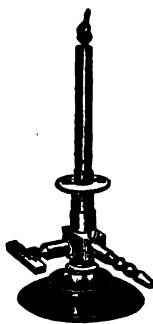


608a

No.		
600	Burner; Argand. Low form, 7 in. high, giving a steady and large flame, which can be turned down very low, with chimney	\$1.10
601	Burner; Bunsen's. Small form, nickeled; 2 in. high, tube 3-16-in. dia. ....	.50
602	Burner; Bunsen's, low shape. With air regulator .....	.50
603	Burner; Bunsen's. Usual size, with air regulator ..	.35
604	Burner; Bunsen's. Large tube, ½-in. diameter .....	.50
604a	Burner; Bunsen's Improved. With flame check and gas regulator	1.00
605	Burner; Bunsen's. With 2 tubes, and air regulators	1.25
605a	Burner; Bunsen's. With 3 tubes, and air regulators	1.50
605b	Burner; Bunsen's. With 4 tubes, and air regulators	2.00
606	Burner; Bunsen's. With 4 burners in one row, for heating long tubes	4.50
607	Burner; Same as above, with stopcocks.	6.00
608	Burner; Bunsen's Self-adjusting, for burning gases of various qualities	1.50
608a	Burner; Bunsen's, for gasoline gas75



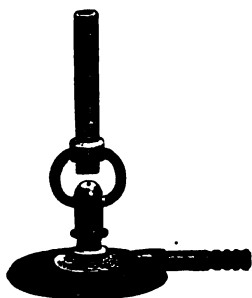
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609a



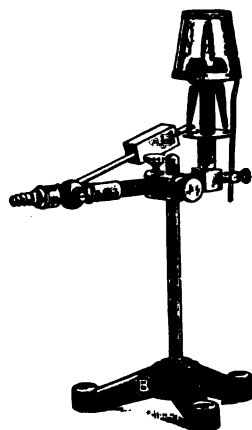
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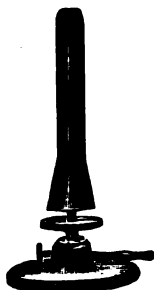
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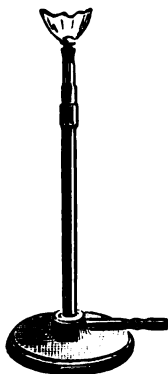
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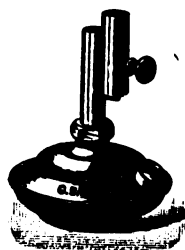
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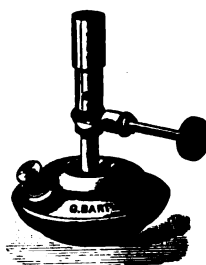
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613a

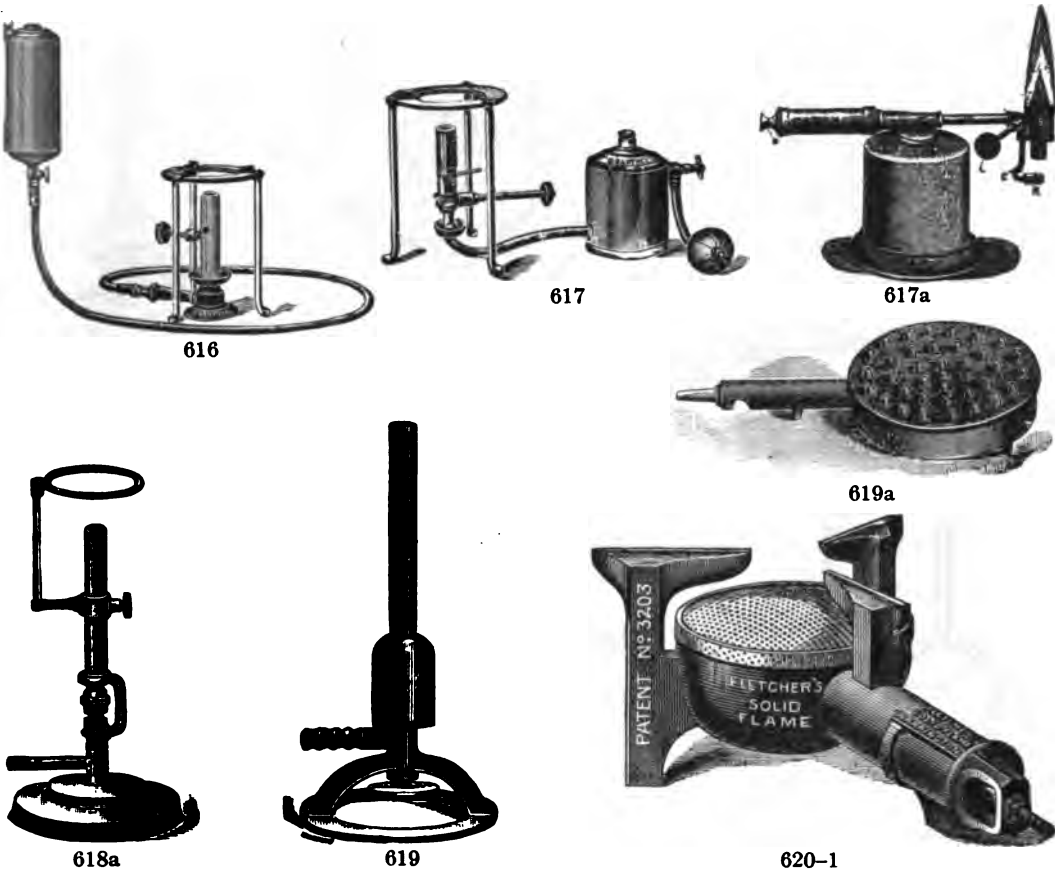


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615

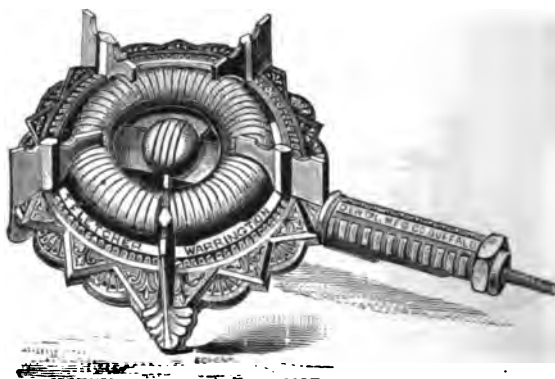
No.		
609	Burner; Bunsen's, with fork to attach to ring stand, and star for chimney...	\$ 1.50
609a	Burner; Bunsen's, constant flame, with stopcock.	2.00
610	Burner; Chaddock's. Of porcelain; incorrodible; for use in hoods where metal, on account of the smoky flame, soon corrodes. Complete with support for dishes, chimney and three asbestos pads.	2.00
610a	Burner; Detroit style, for gasoline gas	1.00
611	Burner; Erlenmeyer's. Giving an intensely hot flame	3.00
612	Burner; Koch's Safety. On adjustable stand	10.00
613	Burner; Teclu's. Giving a large and powerful flame, $\frac{3}{4}$ -in. tube.	1.75
613a	Burner; Illuminating. Table light, 12 in. high	1.00
614	Burner; Barthel's Alcohol. Absolutely safe; approximate heat 1300°C	5.00
615	Burner; Barthel's benzine-boiler. With tube for Bunsen flame.	6.00



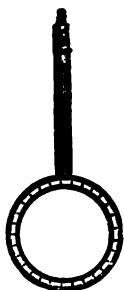
No.				
616	Burner, Barthel's Alcohol. Bunsen's style, equal to 4 Bunsen gas burners, complete with reservoir and 5 ft. flexible metallic tubing.			\$10.00
	Tripod for same. . . . .			.50
617	Burner, Barthel's Benzine. Working without wick; equal to 2 Bunsen gas burners			8.00
	Tripod for same. . . . .			.50
617a	Burner, Turner's Gasoline, brass, nickel-plated, capacity $\frac{1}{2}$ pint			3.00
618	Burner, Bunsen's Adjustable. Its adjustability renders it a favorite burner for those using gasoline gas, or the mixture of gasoline vapor and air made by gas machines.			1.00
618a	Burner, same as No. 618, with adjustable support			1.75
619	Burner, Tyrell's. For gasoline gas; very highly recommended.			1.50
619a	Burner, Fletcher's Evaporating Burner.			
	Size	4	5	6 $\frac{1}{2}$ -in. dia.
	Each	\$1.00	1.25	2.00 Net
620	Burner, Fletcher's Solid Flame Boiling Burner.			
	Size	Small	Large	
	Each	\$1.00	2.00	Net
621	Burner, Fletcher's Solid Flame. For gasoline gas; with wheel valve.			
	Size	Small	Large	
	Each	\$1.75	3.00	Net
621a	Burner, Fletcher's Extra Gauze Tops, for No. 620-1			Each .25



622



624-5



625a



626



627



628



629



630



631



632

No.

622 Burner, Fletcher's, Argand Style.

Size	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{4}$ in.
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Each	\$0.65	1.00	1.25 Net.
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624 Burner, Fletcher's Radial Burner.

Ring dia.	$3\frac{1}{2}$	5 in.
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Each	\$1.50	2.00 Net.
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625 Burner, Fletcher's Radial. For gasoline gas; wheel valve regulator.

Ring dia.	$3\frac{1}{2}$	5 in.
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Each	\$2.25	3.00 Net.
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625a Burner, Ring Form.

Size	3	4	5	6-in. dia.
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Each	\$1.25	1.50	1.75	2.00
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626 Burner Attachment. To set into the Bunsen burner, "Burner tube" \$0.20

627 Burner Attachment. To set over the burner; with rest for the blow pipe20

628 Burner Chimneys. Of Russian iron20

629 Burner Crowns. For heating dishes..... .40

630 Burner Gauze Top. Giving a large round flame..... .30

630a Burner Plates, of porcelain60

631 Burner Tripods. For supporting dishes25

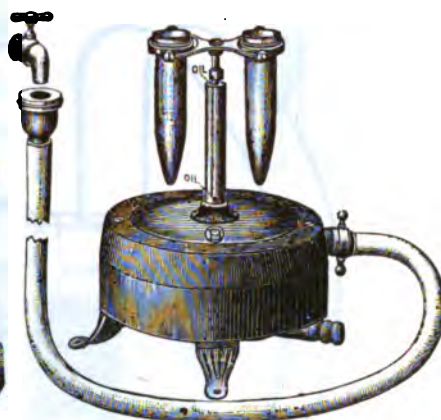
632 Burner Wingtop. For bending glass tubing20



633



633a



633b

No.

- 633 Centrifuge, Hand**, for urine, sputum, milk and water analysis, gives 3,000 revolutions per minute. Complete with one graduated and one ungraduated sedimentation tube.....Net **\$10.00**
 Graduated sedimentation tubes.....Each **.35**
 Ungraduated sedimentation tubes.....Each **.15**
 Graduated milk tubes.....Each **.50**

- 633a Centrifuge, Electric**, for immediate separation and precipitation of solids held in suspension in liquids. For use in the testing of ores and for the precipitation of lead salts in manganese determination. The **Electric Centrifuge** is arranged to run on either the direct or alternating incandescent circuit of 104 to 115 volts but can be arranged for the 220 volt direct current at an additional cost if required. It is a most valuable means of obtaining immediate sedimentation of solids, thus effecting a great saving of time in many chemical operations. The liquid containing the matter to be precipitated is placed in the swinging glass tubes which are protected by metal shields, the machine is then revolved at a high speed and the solids are immediately precipitated to the bottom of the tubes. Centrifuge, as shown in cut, with two glass tubes of 15 cc. capacity, protected by metal shields.....Net **\$2.00**
 Extra percentage tubes.....Each **.75**
 Sediment tubes.....Each **.20**

Note:—A rheostat for controlling the speed is supplied with each centrifuge. When ordering state whether the centrifuge is to be operated on direct or alternating current, and give the voltage.

- 633b Centrifuge, Water Motor**, for the rapid and convenient sedimentation of solids in urine and other fluids. Perfect mechanical construction. Absolutely noiseless. Contact parts cannot become rusted. Needs no attention. May be left running constantly. Anyone can operate it. The simplest and most efficient power centrifuge yet offered.
 Price.....Net **\$10.00**
 Sedimentation tubes, plain.....Each **.35**
 Sedimentation tubes, graduated.....Each **.15**
 Milk tubes, graduated.....Each **.50**



634b



634



635



635a



636

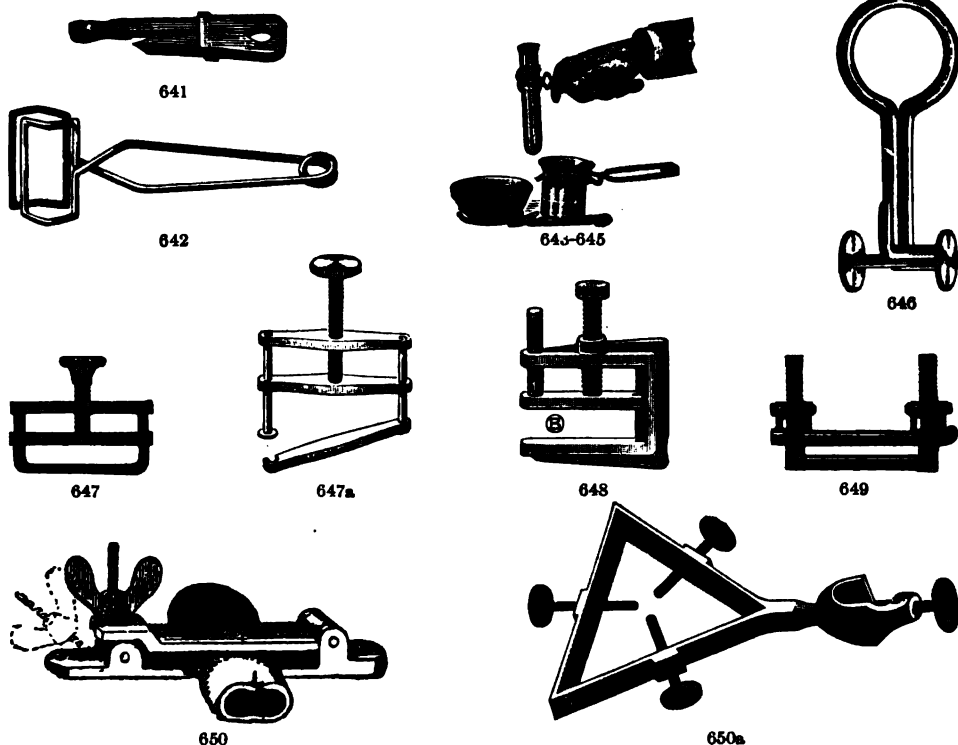


637

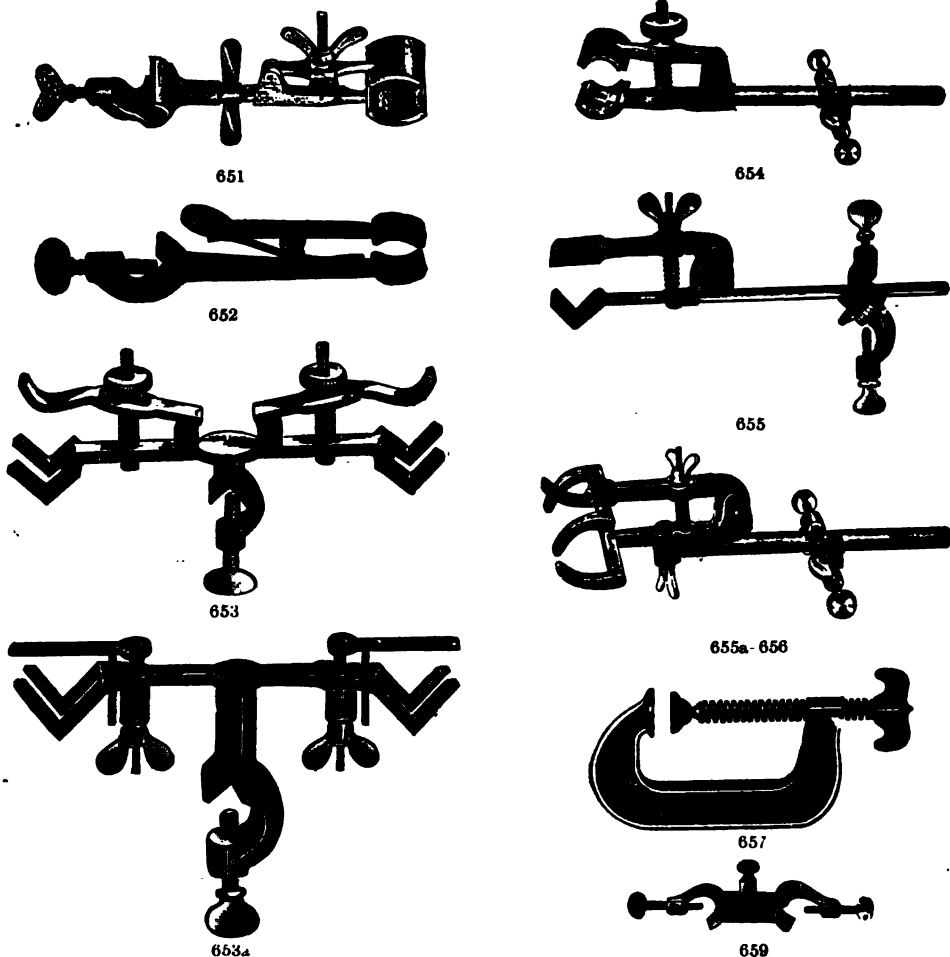
No.									
634	Button Trays. For silver buttons; plates $5\frac{1}{2} \times 2\frac{1}{2}$ in., with 24 depressions of $\frac{1}{8}$ -in. dia. and $\frac{1}{8}$ -in. deep, milled smooth, neatly finished, for use inside of balance case.....								\$0.75
634b	Carboy Inclinator, Flaherty's, for convenient drawing of liquids from carboys.....								Each 6.00
635	Casseroles; Royal Berlin Porcelain. With porcelain handle.								
	No.	1	2	3	3a	4	5	6	
	Dia.	2	$2\frac{1}{4}$	$3\frac{1}{4}$	$3\frac{1}{2}$	$4\frac{1}{4}$	$5\frac{1}{4}$	$6\frac{1}{2}$ in.	
	Capacity	1	3	5	8	13	24	44 oz.	
	Each	\$0.35	.40	.50	.70	.85	1.40	1.75	
635a	Casseroles; German Porcelain. With porcelain handle.								
	Capacity	1	2	4	8	12	16	32 oz.	
	Each	\$0.20	.25	.30	.35	.55	.80	1.00	
636	Casseroles; German Porcelain. With cover and wooden handle.								
	Dia.	3	4	$4\frac{1}{4}$	5	6	$6\frac{1}{2}$ in.		
	Capacity	4	8	12	16	24	32 oz.		
	Each	\$0.50	.60	.70	.90	1.25	1.60		
637	Casseroles, Agateware.								
	Dia.	$4\frac{1}{2}$	5	6	7 in.				
	Capacity	1 pt.	24 oz.	1 qt.	$\frac{1}{2}$ gal.				
	Each	\$0.25	.30	.35	.45				
638	Chamois Skins. Best quality, entirely waterproof; size 16x18 in....								Each .50
639	Chamois Skins. Good quality; size 16x18 in.....								Each .30
640	Charcoal, of hard wood, cut in oblong pieces $4\frac{1}{2} \times 1 \times \frac{1}{8}$ in.; for blow pipe use.								
	Dozen								.50

CALORIMETERS quoted upon application. Any make, according to HEMPEL, JUNKER, MAHLER, PARR, THOMPSON, or others.

CLAMPS.

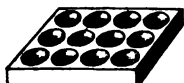


No.				
641	Clamps, wood, for test tubes. With rubber band	Each	\$0.15	
642	Clamps, Stoddard's. Of spring wire; for all sizes of test tubes		.15	
643	Clamps, Chaddock's, for test tubes. Of japanned spring wire, rubber covered jaws		.25	
644	Clamps, Chaddock's, for beakers. Of japanned spring wire, rubber covered jaws		.25	
645	Clamps, Chaddock's, for evaporating dishes. Of japanned spring wire		.25	
646	Clamps, Mohr's, s. c. Pinchcocks. Nickel-plated; strong spring.			
	Size	Small	Medium	Large
	Each	\$0.10	.12	.15
647	Clamps, Hofmann's Screw Compressor. Nickel-plated.			
	Size	Small	Large	
	Each	\$0.20	.25	
647a	Clamps, Hofmann's Screw Compressor. Nickel-plated, improved form; can be used on tubing without disconnecting the apparatus	Each	.25	
648	Clamps, Hofmann's, latest form. Nickel-plated; for rubber tubing up to 1 in.			
	Width	$\frac{1}{2}$	$1\frac{1}{2}$ in.	
	Each	\$0.15	.25	
649	Clamps, Bunsen's, for rubber tubing. Of brass; $1\frac{1}{2}$ in. wide		.40	
650	Clamps, Bunsen's, for heavy rubber tubing. Can be screwed on table; to hold tubing up to 2 in.		.75	
650a	Clamps, Brass; triangle with adjusting screws, to support different sizes of crucibles		1.20	

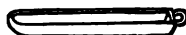


No.						
651	Clamps, for burettes, etc., with set screws, iron.	To attach to a retort stand.				\$0.40
652	Clamps, for burettes.	With strong spring closing the movable jaw				.50
653	Clamps, Hofmann's improved, for two burettes or tubes.	Elegantly finished, of malleable iron.				1.00
653a	Clamps, Hofmann's, double, of iron, for two burettes, etc.					.75
654	Clamps, Bunsen's, for holding burettes, etc.	With fastener complete				1.00
655	Clamps, Bunsen's, for large tubes and condensers.	With fastener complete				1.00
655a	Clamps, Bunsen's Universal, for condensers, etc., the jaws adapting themselves to irregular shapes; with fastener complete					1.00
656	Clamps, Bunsen's Universal, for very large apparatus, the jaws adapting themselves to irregular shapes; with fastener complete					1.50
657	Clamps, iron.	For fastening apparatus to table.				
	Size opening	2	3	4	5	6 in.
	Each	\$0.25	.40	.50	.60	.80
658	Clamp Holders.	For fastening clamps to supports. (See Fig. 655.)				
	Size	Small	Large			
	Each	\$0.20	.25			
659	Clamp Holders, Universal.	To set at any angle				.50

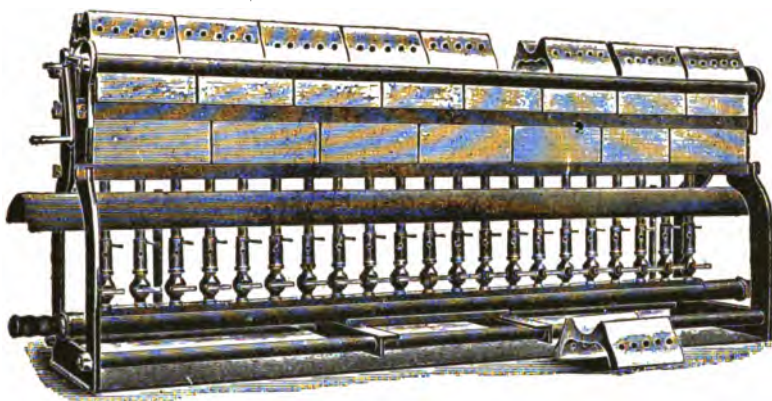
COMBUSTION FURNACES, ETC.



661



663



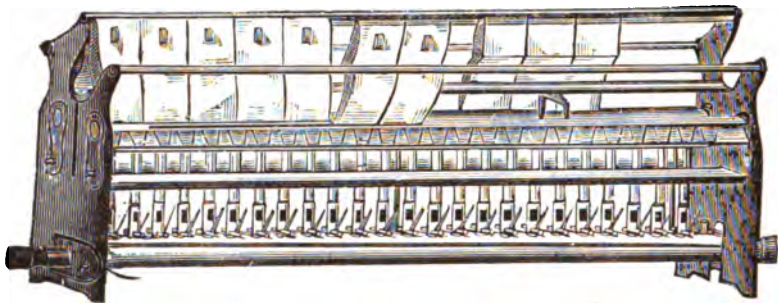
664

No.

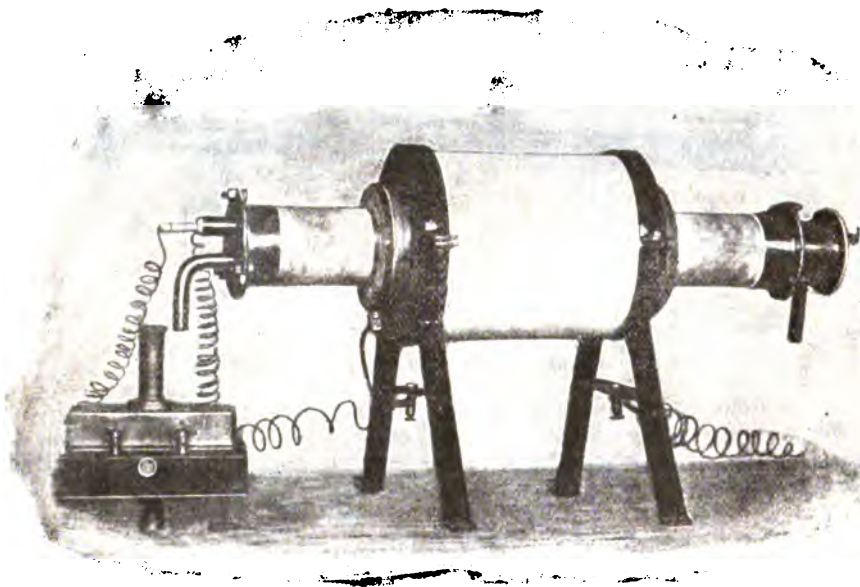
660	Clay Tubes.	Of fire clay; length 24 in.		
		Bore	1-16	$\frac{1}{8}$ in.
		Each	\$0.50	.50

Note:—We will furnish estimates on any other size of clay tubes.

661	Color Test Plates, porcelain.	With 12 cavities; size, $3\frac{1}{4} \times 4\frac{1}{4}$ in.	\$0.50
		With 12 cavities; size, $5 \times 6\frac{1}{2}$ in.	75
661a	Color Test Plates, porcelain.	With 30 cavities; size, $5\frac{1}{2} \times 7$ in.	1.50
		With 24 cavities; size, $4\frac{1}{2} \times 7$ in.	1.25
662	Color Test Plates, porcelain.	Without cavities; $5\frac{1}{2} \times 7$ in.	1.50
663	Combustion Boats, Royal Berlin porcelain.		
		Size	55x12 mm. 75x12 mm. 100x12 mm.
		Each	\$0.20 .25 .30
664	Combustion Furnace, Glaser's. Modified by Anschuetz & Kekule; with 21 burners and mica plates for watching the combustion; a first-class furnace		
			50.00



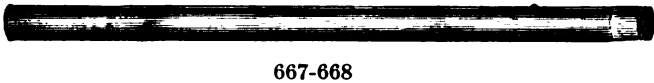
665



665a

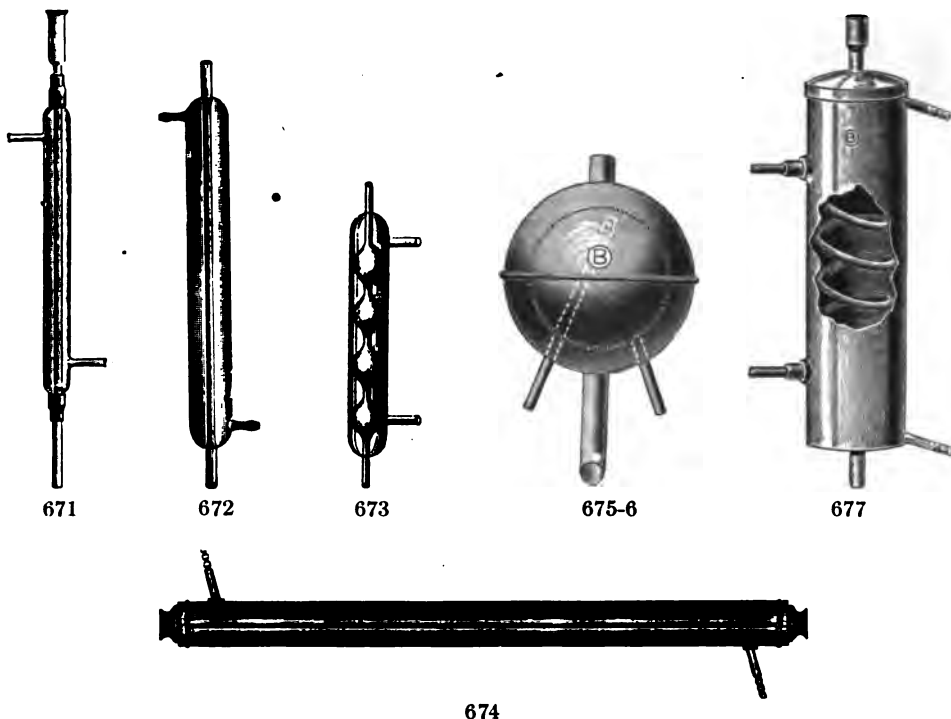
No.				
665	Combustion Furnace, Bunsen's. Each burner having separate stopcock.			
	Length	14	19	25
	With	10	15	20
				31 in.
				25 burners.
	Each	\$18.00	24.00	30.00
			36.00	

665a Combustion Furnaces, Electrical. Quoted on application.



No.						
666	Combustion Tubes, infusible glass. With drawn out point, bore 13 mm. Any other diameter or length made to order.					
	Length	14	16	18	20	24 in.
	Each	\$0.20	.25	.30	.35	.40
667	Combustion Tubes, German porcelain. Bore, $\frac{5}{8}$ -in. dia.					
	Length	18	20	22	24 in.	
	Each	\$1.00	1.20	1.35	1.75	
668	Combustion Tubes, Royal Berlin porcelain. Glazed inside and outside, 24 in. long.					
	Bore	$\frac{1}{4}$	$\frac{1}{2}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$ -in.
	Each	\$4.00	5.00	6.00	7.00	8.00
669	Compasses, pocket. Brass case with cover, metal dial, stop to needle, 1 $\frac{1}{4}$ -in. diameter.					
						\$1.00
670	Compasses, pocket. Watch pattern, nickel-plated, hunting case, agate center, improved stop, 1 $\frac{1}{4}$ -in. diameter.					
						2.00

CONDENSERS.



No.									
671	Condensers, Liebig's, glass.	With rubber connections.							
	Body	12	15	18	20	24	30	40 in.	
	Each	\$1.00	1.10	1.20	1.35	1.50	2.00	3.00	
672	Condensers, Liebig's.	The condensing tube sealed in the glass body.							
	Body	10	12	15	20 in.				
	Each	\$0.85	1.00	1.25	1.50				
673	Condensers, Allihn's, all glass.								
	Body	8	10	12	16 in.				
	Each	\$1.00	1.20	1.40	1.60				
674	Condensers, Liebig's, brass.	Inside tube of glass.							
	Length	12	15	20	30	40 in.			
	Each	\$2.50	3.00	3.50	4.50	6.00			
675	Condensers, Soxhlet's, ball shape, all glass.								
	Dia.	4	5 in.						
	Each	\$3.50	5.00						
676	Condensers, Soxhlet's, ball shape, of metal, nickel-plated; dia. 4 in.								\$3.00
677	Condenser, Hallock's, of copper, with pure block tin condensing coil, has two rods for support; size, 14½x4 in.								6.00

CORKS.



683-683a



684



684a



686



687

No.

681 Corks, tapering, regular length, XX quality.

No.	1	2	3	4	5	6	7	8
Dia. small end	$\frac{1}{4}$	5-16	$\frac{3}{8}$	7-16	$\frac{1}{2}$	9-16	$\frac{5}{8}$	11-16 in.

Gross	\$0.20	.20	.25	.30	.35	.40	.50	.60
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No.	9	10	11	12	14	16	18	20
Dia. small end	$\frac{1}{2}$	$\frac{1}{2}$	13-16	$\frac{7}{8}$	1	1 $\frac{1}{8}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$ in.

Gross	\$0.75	.90	1.00	1.20	1.40	1.80	2.20	2.60
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682 Corks, flat, for wide mouth bottles, superior XX quality.

Dia. large end	1	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	1 $\frac{7}{8}$ in.
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Gross	\$0.80	1.00	1.40	1.60	1.80	2.00	2.40
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Dia. large end	1 $\frac{1}{8}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3	3 $\frac{1}{2}$ in.
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Gross	\$3.00	3.50	4.50	6.00	8.00	11.00	14.00
Doz.	.30	.40	.50	.60	.90	1.20	1.50

683 Cork Borers ; hard brass, well finished.

Sets of	3	6	9	12 pieces.
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Each	\$0.60	1.00	1.75	2.00
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683a Cork Borers, of hard drawn steel, nickel-plated, set 1-6. \$3.00

684 Cork Borer Sharpener Each 1.00

684a Cork Knives Each .25

685 Cork Plates, size 4x12 in., XX quality.

Thick	1-16.	$\frac{1}{8}$	3-16	$\frac{1}{4}$	$\frac{3}{8}$ in.
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Each	\$0.15	.25	.35	.50	.70
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686 Cork Press, lever model Each .30

687 Cork Press, rotary, for small and large corks Each .60

688 Corkscrews, good quality Each .25

CRUCIBLES.



No.	701-2
701	Crucibles, Black Lead or Plumbago, Dixon's.

Nos.	Holding Capacity Liquid Measure.	Height Outside.	Diam. at the top Outside.	Diam. at the Bilge Outside.		
0	7-32 pt.	2 in.	1½ in.	1½ in.	Each	\$0.25
00	1-16 pt.	2½ in.	1½ in.	1½ in.	"	.25
000	½ pt.	2½ in.	1½ in.	2½ in.	"	.25
0000	¼ pt.	3 in.	2½ in.	2½ in.	"	.25
1	½ pt.	3½ in.	3½ in.	3 in.	"	.30
2	¾ pt.	4½ in.	3½ in.	3½ in.	"	.35
3	1 pt.	5½ in.	4½ in.	4½ in.	"	.40
4	1½ pt.	5½ in.	4½ in.	4½ in.	"	.45
5	1½ pt.	6 in.	4½ in.	4½ in.	"	.50
6	1 qt.	6½ in.	5½ in.	5½ in.	"	.60
7	1 qt.	6½ in.	5½ in.	5½ in.	"	.70
8	1 qt.	7½ in.	5½ in.	5½ in.	"	.75
9	1 qt.	7½ in.	5½ in.	6½ in.	"	.80
10	1 qt.	1 pt.	8 in.	6½ in.	"	.85
12	2 qt.	pt.	8 in.	6½ in.	6½ in.	
14	2 qt.	1 pt.	8½ in.	6½ in.	7½ in.	
16	2 qt.	1 pt.	8½ in.	7 in.	7½ in.	
18	3 qt.	1 pt.	9½ in.	7½ in.	8 in.	
20	1 gal.	qt.	pt.	10½ in.	7½ in.	8½ in.
25	1 gal.	qt.	1 pt.	10½ in.	8 in.	8½ in.
30	1 gal.	1 qt.	1 pt.	11½ in.	8½ in.	9½ in.
35	1 gal.	2 qt.	1 pt.	11½ in.	9½ in.	9½ in.
40	2 gal.	qt.	pt.	12½ in.	9½ in.	10½ in.
45	2 gal.	1 qt.	pt.	13 in.	9½ in.	10½ in.
50	2 gal.	3 qt.	pt.	13½ in.	10½ in.	11½ in.
60	3 gal.	qt.	pt.	14 in.	10½ in.	11½ in.
70	3 gal.	1 qt.	pt.	14½ in.	10½ in.	12 in.
80	3 gal.	2 qt.	1 pt.	15½ in.	11½ in.	12½ in.
90	4 gal.	qt.	pt.	15½ in.	11½ in.	12½ in.
100	4 gal.	2 qt.	1 pt.	16½ in.	11½ in.	13½ in.
125	4 gal.	3 qt.	1 pt.	16½ in.	12½ in.	13½ in.
150	6 gal.	3 qt.	pt.	18½ in.	13 in.	14½ in.
200	9 gal.	3 qt.	1 pt.	20½ in.	14½ in.	16½ in.
300	12 gal.	2 qt.	pt.	22 in.	16½ in.	17½ in.

No. 12.
and
upward
per No.
at
7½ cts.

702 Crucible Covers, Black Lead.

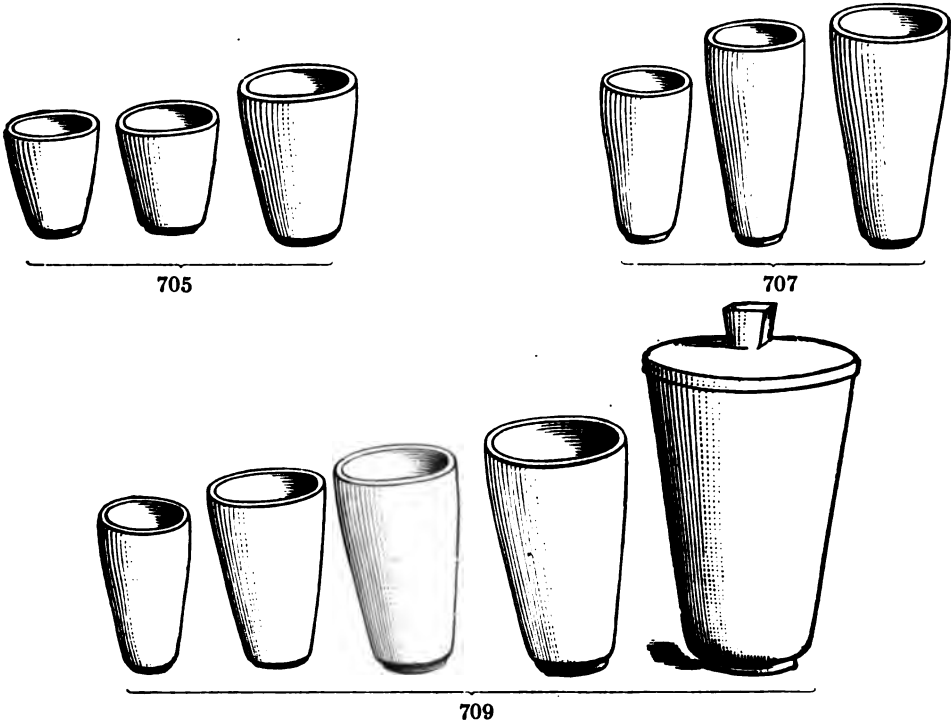
No.	1	2	3	4	5	6	7	8	10	12
Each	\$0.20	.20	.20	.20	.20	.25	.25	.25	.30	.35

All sizes of covers above No. 12 per No. at 2 cts.

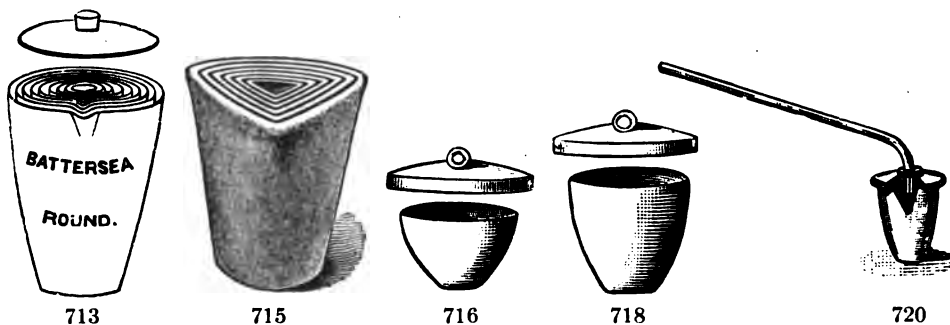
703	Crucible Stirrers, Black Lead. Length 14½ in.	Each	\$0.60
	Crucible Stirrers, Black Lead. Length 9 in., Mint size	"	.40
704	Crucible Stirrers, Fire Clay. Length 16 in.	"	.20

CLAY CRUCIBLES.

OUR OWN MANUFACTURE. THE BEST IN THE WORLD.



No.	Crucibles, Clay, our own manufacture.							
705	These crucibles are made in both hard and soft burn.							
	Capacity	5	10	12	15	20	30	40 grm.
	Height	2½	3	3½	3½	3½	4½	5½ in.
	Dia.	2½	2½	2½	2½	3	3½	3½ in.
	Per 100	\$2.50	3.00	3.00	3.00	4.00	6.00	8.00
706	Crucible Covers.	Per 100	2.25	2.25	2.25	2.25	3.50	4.00 5.00
706a	Crucibles, Clay, low form.	30 grammes capacity, 3½ in. high, 3½ in. dia.						
	Per 100							\$6.00
	Covers for same, per 100							5.00
707	Crucibles, Clay, our own manufacture, very nearly shape of French, will stand sudden heating without cracking. Superior to French.							
	No.	6 or D		8		9		
	Height	4		5		5½ in.		
	Dia.	2½		2½		3 in.		
	Per 100	\$3.50		7.00		8.00		
708	Crucible Covers.	Per 100	2.25		2.25		3.50	
709	Crucibles, Clay, our own manufacture, for open furnace.							
	No.	D or 6	E	F	G	I	J	K L
	Height	4	4½	5	5½	6	6½	7½ 8 in.
	Dia.	2½	3	3½	3½	4	4½	4½ 5½ in.
	Per 100	\$3.50	5.50	6.00	8.00	10.00	12.00	13.50 24.00
710	Crucible Covers.	Per 100	2.25	3.50	4.00	5.00	5.50	6.00 8.75 8.75



No.

713 Crucibles, Battersea, round form.

No.	K	L	N	P
Height	7½	8	9½	11 in.
Dia.	4½	5½	6½	7½ in.
Per 100	\$16.00	30.00	50.00	80.00

715 Crucibles, Hessian Sand, triangular, in nests.

No. in Nest	4	5
Height of largest	4	4½ in.
Width on top	3	3½ in.
Nest	\$0.08	.15

716 Crucibles, Royal Berlin Porcelain, without covers, glazed inside and outside.

No.	000	00	0	1	2	3	4	5
Dia.	1	1½	1½	1½	2	2½	3	3½ in.
Capacity	½	½	¾	1	1½	3½	6	10 oz.
Each	\$0.09	.15	.22	.25	.35	.42	.52	.60

717 Crucible Covers for above

	.03	.03	.03	.05	.05	.08	.08	.10
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Note:—Upon request of many of our customers we also keep in stock a **Royal Berlin** Crucible of a size between the 000 and 00, similar in dimensions to Royal Meissen No. 8. Price..... **\$0.12**
In ordering, please specify **R. B. No. 8.**

718 Crucibles, Royal Meissen Porcelain, without covers, glazed inside and outside.

No.	1	2	3	4	5	6	7	8	9	10	11
Dia.	3½	2½	2½	2½	1½	1½	1½	1½	1	¾	½ in.
Capacity	6	4½	3½	2	1½	1½	1	½	½	½	1-16 oz.
Each	\$0.45	.35	.30	.21	.17	.15	.14	.13	.12	.10	.09

719 Crucible Covers for above

	.15	.10	.05	.05	.05	.05	.03	.03	.03	.03	.03
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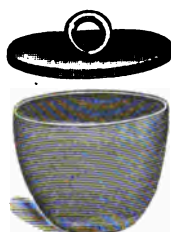
See also Annealing Cups, Nos. 131 to 134.

720 Crucibles, Unglazed Porcelain, Rose's, with perforated cover and tube.

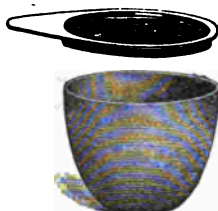
Capacity	½	1	2 oz.
Each	\$0.75	1.00	1.50

721 Crucible Tubes and Covers only

	.50	.60	1.00
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728



728a



729



730

No.

722 Crucibles, Unglazed Porcelain, lipped with cover.

Capacity 125 250 500 cc.

Each \$0.40 .50 .70

723 Crucibles, Royal Meissen Porcelain, Gooch's, with perforated bottom and cover; Meissen form. \$0.50

724 Crucibles, Royal Meissen Porcelain, Caldwell's, with cover and small rim instead of bottom to hold perforated disc; conical form.50

725 Crucibles, Pure Solid Nickel, for alkaline fusions.

Capacity 20 30 75 100 250 450 cc.
Dia. 3½ 4 5 6 8 10 cm.

Each \$0.40 .50 .60 .70 1.00 1.50

726 Crucible Covers for above .20 .25 .30 .35 .50 .75

727 Crucibles, Pure Silver, with covers. Same shape as platinum crucibles.

Capacity 20 30 50 75 100 150 200 cc.

Approx. Wt. 45 60 80 110 150 180 200 grms.
Per gramme08

728 Crucibles, Light Spun Iron, with cover.

Capacity ½ 1 2 4 8 oz.
Height 1½ 1¾ 2 2¾ 3 in.
Dia. 1½ 2½ 2½ 3½ 3½ in.

Each \$0.25 .30 .40 .50 .75

728a Crucibles, Spun Copper, with cover.

Capacity 50 100 250 cc.
Dia. 2 2¾ 3¾ in.
Height 1¾ 1¾ 2½ in.

Each \$0.60 .80 1.00

729 Crucibles, Cast Iron, with cover.

Capacity pt. qt. ½ 1 2 gal.

Each \$2.00 2.50 3.00 4.50 6.00

730 Crucibles, Normal School, Skidmore's. For making oxygen from MnO₂, calcination of chalk, with recovery of the expelled CO₂, manufacture of soda from cryolite, preparation of ammonia, destructive distillation of coal, wood or other organic substances, capacity 1½ oz. 1.00
Capacity, 6 oz. 2.00

Crucibles of Platinum. See Platinum.

The Case Laboratory Crusher.

(Patented.)



731

No.
731

Crusher Case. The new Case Laboratory Crusher (patented 1903) is designed to meet the constantly increasing demand for a strong power-driven laboratory ore crusher. We can unhesitatingly recommend it as being the strongest, fastest and best little crusher on the market to-day. The cut above represents the combination hand and power crusher, which has the essential features of strength and speed, and at the same time requires the least power of any hand crusher on the market. This is furnished with a belt pulley 9 inches in diameter, with a 2½-inch face. A speed of 450 to 500 revolutions, driven by one H. P., is recommended for general use. Under these circumstances the crusher has a capacity of from 50 lbs. to 100 lbs. per hour, depending upon the nature of the ore to be crushed. The jaw opening is 2½ by 3 inches. All parts are made in exact duplicate and consequently replacements can be had at a minimum expense. The cut on following page shows the Case Crusher opened to clean, which is easily and quickly accomplished. It is only necessary to give two or three turns of the hand wheel at the front end of the frame, which allows the front jaw plate and adjustment shims to be lifted out. The rear jaw and plate can then be raised and swung back, as shown. This cleaning device is quickly and easily operated, and does not weaken the crusher frame or leave any loose parts to rattle and wear. The adjustment for fine or coarse crushing is made by use of special patented shims, which are inserted between the front jaw plate and the frame. This adjustment affords a variation of from ¼-inch to 20 mesh, or finer, is quickly changed, perfectly substantial, and does not alter the relative position of front and back jaw plates, as it does with crushers having a rear adjustment. The motion of the movable jaw is such as to give it the very best possible feed and still not cake on soft material. The rear jaw plate is held by one taper head bolt in the center so that when the lower end becomes worn it can be reversed. The front plate is also reversible. Weight 130 pounds.

Price, Hand only	\$30.00
Price, Power	32.00



731

731a Crusher, Case. Large size, for power only. This is the same as our No. 731, except for size, and is especially suited to mills, smelters, samplers and others having large samples to crush. Jaws, $4\frac{1}{2}$ inches wide; opening, 3 inches; capacity, 150 lbs. to 300 lbs. per hour, depending upon nature of ore to be crushed. Floor space required, 21 in. by 21 in. Height with hopper, 18 inches. Shipping weight, 350 lbs.

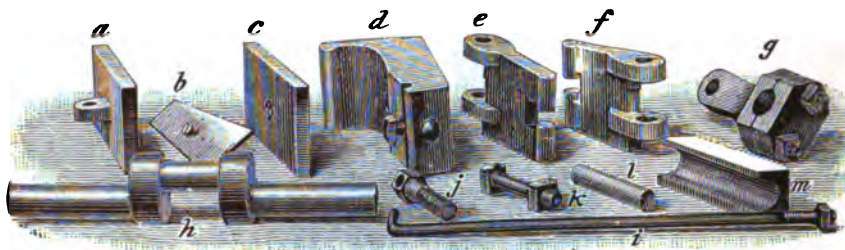
Price \$80.00
 Price, with tight and loose pulleys. 90.00



731-B

731b Crusher Parts, Case. Small size.

A 1	Frame (bare)	\$12.00	A 11	Shim to regulate grade of product.	\$0.25
A 2	Cap for Shaft .....	.50	A 12	Steel Crank Shaft	3.00
A 3	Bolt for Shaft Journal ..	.10	A 13	Pitman	1.50
A 4	Cheek Plates (pair) with Bolts. ....	.75	A 14	Front (long) Toggle ....	.75
A 5	Movable Jaw	2.00	A 15	Back (short) Toggle. ....	.75
A 6	Mild Steel Plate for Movable Jaw A5, with Bolt and Nut A7 .....	.50	A 16	Toggle Pin .....	.25
A 8	Mild Steel Plate for Fixed Jaw, with Stud A9 .....	.50	A 17	Spring for Toggle Socket. ....	.25
A 10	Hand Grip .....	.25	A 18	Cap Screw for A17 .....	.10
			A 19	Bolt for A17 .....	.10
			A 20	Hand or Fly Wheel	3.00
			A 21	Pulley Wheel.	4.00



No.

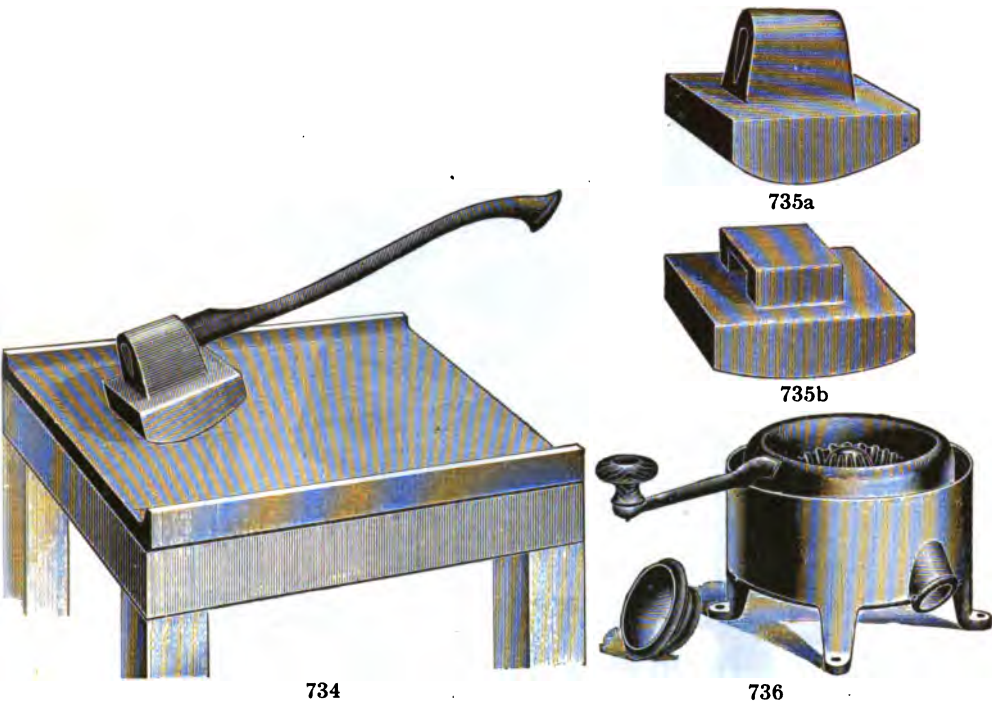
732

731c Crusher Parts, Case Crusher. Large size.

B 4	Cheek Plates (pair) with Bolts.	\$1.25
B 5	Movable Jaw	3.00
B 6	Mild Steel Plate for Movable Jaw, with Bolt and Nut, B7 . . . . .	.90
B 8	Mild Steel Plate for Fixed Jaw, with Stud B9 . . . . .	.90
B 11	Shim to regulate grade of product. . . . .	.30
B 12S	Steel Crank Shaft	5.00
B 12L	Steel Crank Shaft for Loose Pulley	6.00
B 13	Pitman	2.50
B 14	Front (long) Toggle	1.50
B 15	Back (short) Toggle	1.50
B 16	Toggle Pin . . . . .	.40
B 17	Spring for Toggle Socket . . . . .	.40
B 18	Cap Screw for A17 . . . . .	.10
B 19	Bolt for A17 . . . . .	.10
B 21	Pulley Fly Wheel	6.00
B 21L	Loose Pulley	5.00

732 Crusher Parts, Bosworth's. For convenience of our patrons in ordering we give herewith cuts of the various parts of Crusher, which may be ordered by letters appended to separate parts.

a.	Stationary Chilled Jaw Plate . . . . .	.50
b.	Steel Cheek Plate and Bolts, per pair. . . . .	.75
c.	Wrought Iron Movable Jaw Plate. . . . .	.50
d.	Movable Jaw	2.00
e.	Toggle Plate . . . . .	.50
f.	Duplicate of e . . . . .	.50
g.	Pitman	1.50
h.	Steel Crank Shaft	3.00
i.	Spring Rod . . . . .	.50
j.	Eye Bolt, for attaching plate to jaw. . . . .	.35
k.	Toggle Frame Bolt . . . . .	.10
l.	Steel Toggle Pin . . . . .	.25
m.	Movable Jaw Shoe . . . . .	.50
n.	Pulley Wheel.	4.00
o.	Hand Wheel	3.00
p.	Coil Spring and Washer. . . . .	.50
q.	Main Crusher Frame	12.00



No.

734 **Crushers, Bucking Board and Muller**, for quickly reducing ore to a fine powder; of iron 1 in. thick, planed smooth on grinding side, and having flange on two sides 1½ in. high. Supplied with either a round or flat faced muller. We give below the various sizes of regular stock buck boards, and the weight of muller supplied with each.

Size	12x18	18x20	20x24	24x30	24x36	30x36
Wt. of Muller	15	15	20	25	25	35 lbs.
Each	\$6.00	9.00	12.00	15.00	16.50	20.00

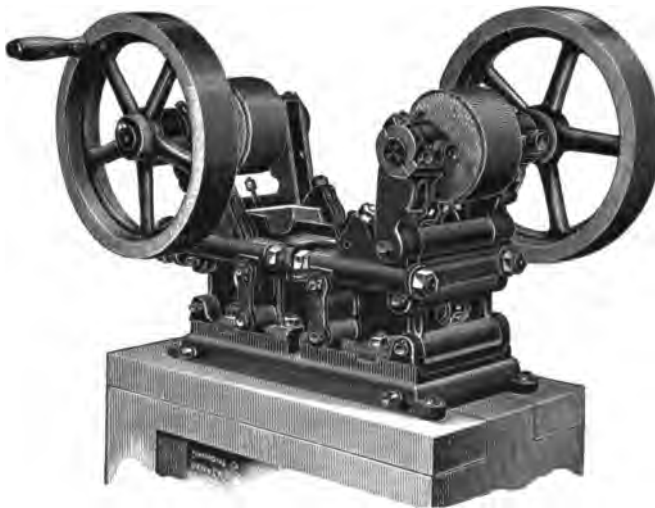
Note:—Round mullers are always supplied (except the 35 lb. muller with the 30x36 in., which is flat) which take regular axe handle; flat mullers take pick handles—see illustrations above. Different weight mullers can be supplied at a proportionate difference in price. Handles included.

735 **Crushers, Extra Mullers**, small, medium and large, with best hickory handles. Per lb. \$0.10

736 **Crushers, Weatherhead's Patent**. Crusher and Pulverizer combined. Will reduce ores, pig iron, rock, clay, coal, etc., to fine powder in very short time. Readily cleaned; discharges material as soon as pulverized; working surfaces chilled. The cover is made so that it may be used as a small hand mortar, the end of the handles being rounded in form of a pestle. One lb. of pig iron at first operation can be reduced in 12 minutes to pass through sieves from No. 80 to 140. One lb. glass in 7¼ minutes. 25.00



737a

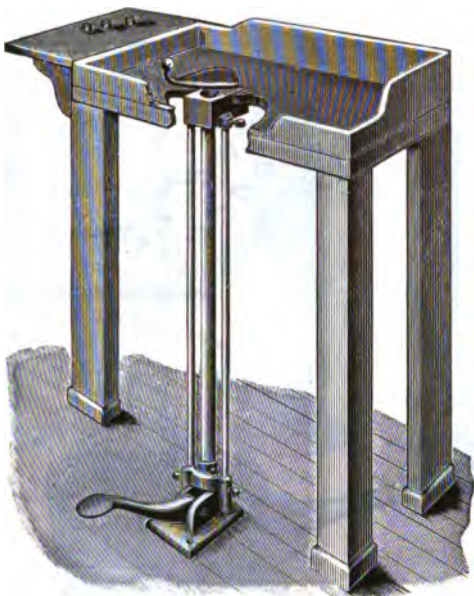


737b

No. 737. Crushing Rolls, Iler's Laboratory Size. The Iler Rolls are especially adapted for use in laboratories and testing plants having from specimen samples to mill run samples and ton lots to prepare for the various methods of treatment that require fine crushing. Cut 737a shows the rolls complete, ready for work. It is fitted with two 6-inch rolls, which have 3-inch faces. These rolls are adjustable to crush from 10 to 100 mesh, or finer, and will take, easily, the product of our Case Crusher (Catalogue No. 731) or of any crusher reducing from 4 to 20 mesh. It has two 14-inch pulleys, with a 2½-inch face, and can be driven by either, or both. One of the pulleys is fitted with a handle so that small samples may be run through by hand. From one to one and one-half horse power is recommended. The rolls are easily and quickly adjusted to prevent flanging and uneven wear, as well as to regulate the grade of fineness. This machine was carefully designed with a view to durability. Since being placed on the market three years ago, we have not received a single inquiry for repairs; a record which speaks for itself. Cut 737b on this page shows the rolls open for cleaning. Two or three turns of the nut at each end of the machine releases the hopper, which being light can easily be lifted off and the rolls thrown open. A thorough cleaning and replacement of the parts between samples can be accomplished in one minute. There is an automatic and adjustable feed, which is underneath the hopper.

Shipping weight, 300 lbs. Price f. o. b. Denver..... **\$90.00**

CUPELS.



No. 742-3 744

741 Cupels. Our XX brand of cupels are made from the best bone ash and have all the proper absorbing qualities.

Absorbing	10	15	20	30	50	75	150 grammes.
Dia. on top	1	1½	1½	1½	1½	2	2½ in.
Per Doz.	\$0.25	.30	.35	.40	.45	.60	.75
Per 100	1.50	2.00	2.25	3.00	3.50	4.00	6.00

742 Cupel Moulds, brass. Finely finished.

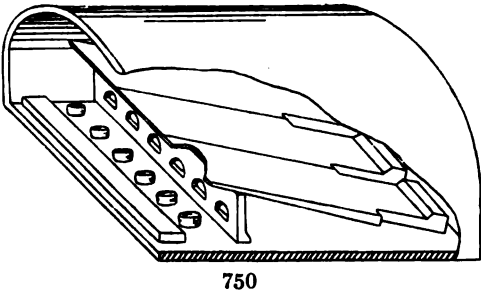
Dia.	¾	1	1½	1½	1½	1½	2	2½ in.
Each	\$1.50	1.75	2.00	2.25	2.50	3.00	4.00	6.00

743 Cupel Moulds, iron.

Dia.	¾	1	1½	1½	1½	1½	2	2½ in.
Each	\$1.10	1.25	1.35	1.50	1.75	2.00	2.25	3.00

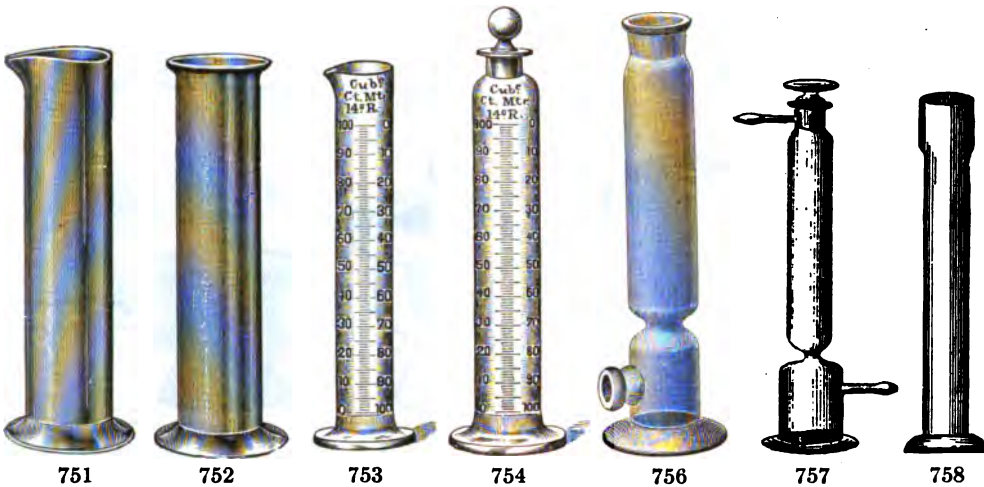
744 Cupel Machine, Iler's Pedal. The most efficient and satisfactory machine made; having a capacity of 500 cupels per hour. This machine has been thoroughly tried by so many smelters and assay offices, and found universally satisfactory that we have no hesitancy in recommending it as the best on the market. It makes cupels of equal density and height, and is usually set up with a table similar to accompanying cut. It is made in two sizes, the ordinary size making 1½ and 1½-in. cupels; the large size making 1½, 1½ and 1½ and 2 in. The changing of the dies to make any of the above sizes is extremely simple and takes less than a minute; all dies of brass. On account of the simplicity of this machine it can be sold at a much more reasonable price than any of the other makes. It is well made and substantial in every particular.

Price of machine complete to make 1½ and 1½-in. Cupels. \$25.00
Price of machine complete to make 1½, 1½, 1½ and 2-in. Cupels. 35.00



No.				
747	Cupel Rake, iron.	24 in. long	.....	\$0.50
748	Cupel Shovel, iron.	24 in. long	.....	.50
	Cupel Tongs.	See Tongs No. 1530.		
749	Cupel Trays.	Holding 16 cupels, with detachable handle, all iron	.....	.75
750	Cupel Cooler.	For assay furnaces, W. D. Longwood's, enabling the assayer to run two or more rows of cupels at the same time and insure uniform heating. Price per set of 5 tiles for muffles up to 9x15 in. size	.....	1.50
		Price per set of 5 tiles for larger muffles	.....	2.00
750a	Cups, Miners', of agateware.			
	Capacity	2	3 pts.	
	Each	\$0.50	.75	

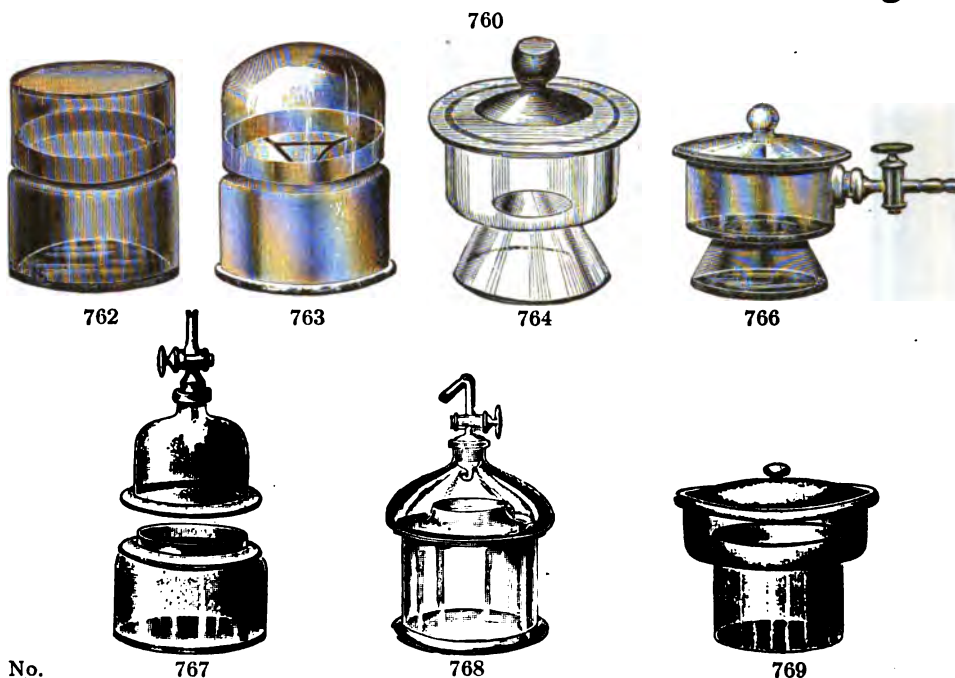
CYLINDERS.



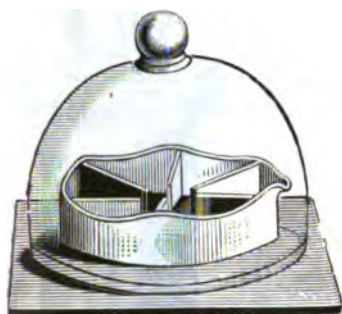
No.

751	Cylinders, glass, with lip.	Height	5	6	7	8	10	12	12	15	15	15	18	18 in.
		Dia.	1	1½	1½	1½	1½	1½	2	1½	2	2½	2	3 in.
		Each	\$0.15	.20	.25	.30	.35	.40	.45	.50	.55	.70	.80	1.00
752	Cylinders, glass, with ringneck.	Height	5	6	7	8	10	12	12	15	15	15	18	18 in.
		Dia.	1	1½	1½	1½	1½	1½	2	1½	2	2½	2	3 in.
		Each	\$0.15	.20	.25	.30	.35	.40	.45	.50	.55	.70	.80	1.00
753	Cylinders, glass, with lip, double graduation in CC., reading up and down.	Capacity	10	25	50	100	200	250	300	500	1000	2000	cc.	
		Each	\$0.35	.45	.55	.70	.90	1.00	1.10	1.25	2.50	3.50		
754	Cylinders, glass, with ground-in stopper, double graduation in CC., reading up and down.	Capacity	10	25	50	100	200	250	300	500	1000	2000	cc.	
		Each	\$0.45	.60	.70	.90	1.15	1.30	1.40	1.75	2.75	4.25		
755	Cylinders, Nessler's, for ammonia test.	Grad.	50	100	50 and 100	50, 100 and 150 cc.								
		Each	\$0.50	.60	.70	1.00								
755a	Cylinders, Nessler's, for water analysis, tall form, 50 CC., with polished bottom, lipped, size 12×¾-in.												Each	\$0.50
756	Cylinders, Chloride Calcium. Plain.	Height	8	12	16	20	24 in.							
		Each	\$0.50	.75	1.20	1.75	4.00							
757	Cylinders, Drying, with perforated glass stopper.	Height	11	14 in.										
		Dia.	1½	2 in.										
		Each	\$1.75	2.25										
758	Cylinders, Mercury Jars, with enlarged top.	Height	12	16	18	20 in.								
		Each	\$0.40	.50	.60	.70								

DESICCATORS.



No.	767	768	769
760	Deflagration or Combustion Spoons, of iron, $\frac{1}{2}$ or 1-in. cup		
760a	Deflagration or Combustion Spoons, of brass, $\frac{1}{2}$ or 1-in. cup		
761	Desiccators, Atwater's. With triangle		
762	Desiccators, Fresenius'. Flat top		
763	Desiccators, Fresenius'. Round top, with brass triangle		
764	Desiccators, Scheibler's. With knob top, ground air tight.		
	Dia.	4	6 in.
	Each	\$0.80	1.20
765	Desiccators, Scheibler's. With porcelain plate, like No. 772.		
	Dia.	4	6 in.
	Each	\$1.50	2.00
766	Desiccators, Scheibler's. With side tube and stopcock ground in. Inside dia. $5\frac{1}{2}$ in.		
			3.00
767	Desiccators, Fresenius'. With stopcock ground in top tubulature. Inside dia. 5 in.		
			3.50
768	Desiccators, Hempel's. Very perfect, from the fact that water vapor has a lower specific weight than air and therefore accumulates in the upper part of a desiccator, which is overcome by placing the drying substance in the lower part of the cover.		
	Size	4x4	6x5 in.
	Each	\$3.50	4.50
769	Desiccators, Reinhardt's. This form possesses many advantages; the air-tight cover fits inside the rim and therefore cannot slip off. The drying material is placed in the upper broad rim, so that all the other space is available for drying purposes. Drying space, 6x6 in.		
			5.00



770



771



772



773



774



776



777

No.										
770	Desiccator , consisting of a porcelain acid dish and bell glass ground air tight to heavy glass plate.									
	Dia. of bell jar	6	8 in.							
	Each	\$2.25	3.00							
771	Desiccator Dishes , or acid dishes, of porcelain, with partitions.									
	Dia.	4½	6½ in.							
	Each	\$1.00	1.40							
772	Desiccator Plates , of porcelain.									
	Dia.	3½	5 in.							
	Each	\$0.80	1.00							
773	Dialysers . Low form, complete.									
	Dia.	6	8 in.							
	Each	\$2.00	2.50							
774	Dialysers . Tall form, complete.									
	Capacity	qt.	½ gal.							
	Each	\$1.25	1.50							
775	Diamonds , for cutting glass; in handle.....									\$5.00
776	Diamonds , for writing on glass; in handle									3.00
777	Dies, Figures . Of steel, for stamping bullion, etc. Hand cut, best quality.									
	Face	1-16	½	3-16	¼	5-16	⅓	7-16	½ in.	
	Set	\$0.60	.60	.80	1.00	1.20	1.60	2.40	3.00	



No. 778a



778



780



780a

777a Dies, Figures, of cast iron, for stamping wood, soft metals, etc.

Size $\frac{1}{2}$ in	Set	\$2.00
Size $\frac{3}{4}$ in	Set	3.50

778 Dies, Letters. Of steel, for stamping bullion, etc. Hand cut, best quality.

Face	1-16	$\frac{1}{2}$	3-16	$\frac{1}{4}$	5-16	$\frac{3}{8}$	7-16	$\frac{1}{2}$ in.
Set	\$1.75	1.75	2.50	3.00	3.50	5.00	6.50	8.50

778a Dies, Letters, of cast iron, for stamping wood, soft metals, etc.

Size $\frac{1}{2}$ in	Set	6.00
Size $\frac{3}{4}$ in	Set	10.00

779 Dies, Steel Stamp, i. e. letters or figures in one piece.

Size	$\frac{1}{2}$	$\frac{1}{4}$	5-16	$\frac{3}{8}$	$\frac{1}{2}$ in.
Each Letter	\$0.30	.35	.40	.45	.50

780 Dippers, Agateware, extra strong, with wooden handles for quicksilver.

No. 210 small size, $4\frac{1}{4} \times 3$ in.	Each	.60
No. 214 large size, $6 \times 3\frac{1}{2}$ in	Each	.75

780a Digester or Autoclav, for sterilizing under steam pressure. The boiler is made of extra heavy copper, tin-lined, is 24 inches deep and 11 inches in diameter, with a perforated rack inside. The lid is made of cast brass and nickel-plated. It is made with a ground joint, no washers being necessary to make it steam-tight; it is held in position by six screw clamps. The apparatus is tested and **guaranteed to stand pressure of 50 pounds to the square inch**, is provided with a pressure gauge, thermometer and safety valve; the latter is set at 30 pounds, but may be increased or decreased. There is a small pet valve which must be kept open until the steam escapes, thereby forcing all the air out of the boiler. The base is made of sheet iron and is 8 inches high, extreme height of the apparatus is 40 inches. Price, including three-tube burners

50.00

DISHES.



781



782



783



784



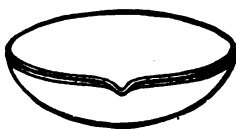
785

No.

781	Dishes, Crystallizing, glass. With flat bottom and straight sides.												
	Dia.	2½	2¾	3½	3¾	4	4½	5	5½	6½	7½	8½	9½ in.
	Each	\$0.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.75
782	Dishes, Crystallizing, porcelain. Glazed inside, with flat bottoms, straight side and with lip.												
	Dia.	6	8	10	11	12½ in.							
	Each	\$0.60	.80	1.20	1.50	2.00							
783	Dishes, Evaporating, glass, hemispherical. With lip.												
	Dia.	2	2½	3½	4	4¾	5½	6½ in.					
	Each	\$0.12	.15	.20	.25	.30	.40	.50					
784	Dishes, Evaporating, Royal Meissen Porcelain. With lip.												
	No.	000	00	0	1	2	3	4					
	Dia.	16	14½	13½	12	11	10	9 in.					
	Capacity	2½	1½	1¼	1	¾	1 gal.	2½ pts.					
	Each	\$7.00	6.00	4.00	3.00	2.25	2.00	1.50					
	No.	5	6	7	8	9	10	11					
	Dia.	7½	6½	5½	5	4½	3½	2½ in.					
	Capacity	2	1	½ pt.	6	4	2	1 oz.					
	Each	\$1.20	.90	.60	.45	.35	.25	.20					
785	Dishes, Evaporating, Royal Berlin Porcelain. Glazed inside and outside, with lip.												
	No.	000	00	0	1	2	3	4	5				
	Dia.	1	2½	3	3½	3¾	4½	4¾ in.					
	Capacity	½	2	3	4	5	6	8	10 oz.				
	Each	\$0.10	.18	.20	.30	.35	.40	.45	.55				
	No.	6	7	8	9	10	11	12					
	Dia.	6	7	8¾	10½	12½	14	16 in.					
	Capacity	1	2	3	5	7 pts.	1½	2½ gal.					
	Each	\$0.70	.90	1.20	1.75	2.75	3.65	8.50					



786



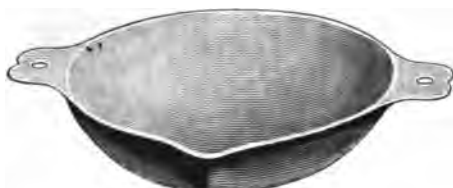
787



788



789



791



792

No.

786	Dishes, Evaporating, Royal Berlin Porcelain.			With lip, shallow form.			
No.	1	2	3	4	5	6	7
Dia.	2½	3¼	3½	4	4½	5½	6 in.
Capacity	1	2	4	6	8	12	20 oz.
Each	\$0.25	.35	.40	.50	.60	.75	1.00

787	Dishes, Evaporating, German Porcelain. Glazed inside with heavy rim.											
No.	00	0	1	2	3	4	5	6	7	8	9	
Dia.	16	14	12	11	10	9	8	7	6½	6	5½ in.	
Capacity	3	2	1 gal.	3	2	1½	1 qt.	24	20	16	12 oz.	
Each	\$4.00	3.00	2.00	1.60	1.30	.90	.80	.70	.60	.50	.40	

788	Dishes, Evaporating, German Porcelain. Glazed inside with light rim, shallow.					
No.	00000	0000	000	00	0	1
Dia.	2	2½	3	3½	4½	5½ in.
Capacity	¾	1½	2	3	4	8 oz.
Each	\$0.10	.15	.20	.25	.30	.35

789	Dishes, Evaporating, Royal Berlin shape No. 785, but of Thuringian make; a good dish for regular laboratory work; glazed inside and outside.							
No.	00	0	1	2	3	4	5	
Capacity	1	1½	2	3	4	6	8 oz.	
Dia.	2½	3	3½	3½	4	4½	4½ in.	
Each	\$0.12	.15	.18	.20	.25	.30	.35	

791	Dishes, Evaporating, Agateware.									
	No.	1	2	3	4	5	6	7	8	9
	Capacity	pt.	qt.	$\frac{1}{2}$	1	2	3	4	5	6 gal.
	Each	\$0.75	1.00	1.50	2.00	3.00	4.00	6.00	12.00	15.00

792	Dishes, lead, shallow form.						
	Dia.	2	2½	3	4	5	6 in.
	Each	\$0.12	.15	.20	.25	.35	.40



795



796



798



799



797

No.
793 Dishes, pure solid nickel. With lip.

Dia.	40	60	80	100	150 mm.
Each	\$0.45	.65	1.00	1.40	2.40

Dishes, platinum. See platinum.

794 Dishes, pure silver. Any size made to order. Price on application.

795 Dishes, German Silver, large. With lip and counterpoise, for weighing sugar samples \$2.50

796 Dishes, s. c. Moist Chambers. With cover; dia. 9 in. inside; height 2½ in. ... 1.50

797 Dishes, Petri's Culture. A double dish, very flat, loosely fitting cover, dia. 4 in.35

798 Dishes, Preparation. These jars have no contraction at the top, the cover being grooved and ground makes them air tight.

Size	A	B	C	D
Height	3½	1½	1	¾ in.
Dia.	2½	2½	2	1½ in.
Doz.	\$2.00	1.80	1.50	1.20
Each	.20	.18	.15	.12

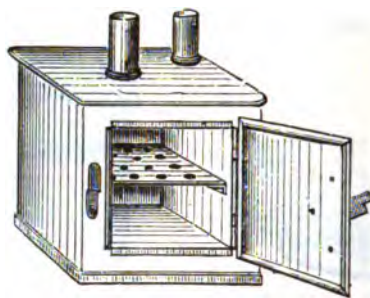
799 Dishes, Staining. Watch glass form. Beveled edge and flat bottom, with groove to allow setting upon top of each other, with ground mark on edge for writing on surface. Doz. 1.00

799a Dishes, Aluminum, flat bottom, straight sides, for milk analysis and moisture determination.
 Size, 2 in. diameter, ½ in. high. Each .25
 Size, 2½ in. diameter, ¾ in. high. Each .30
 Size, 3 in. diameter, ¾ in. high. Each .35

Drying Baths, Drying Ovens, Air Baths, Etc.



800



801



803

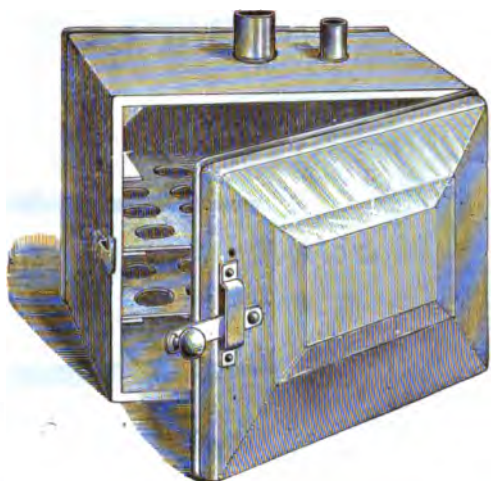


805

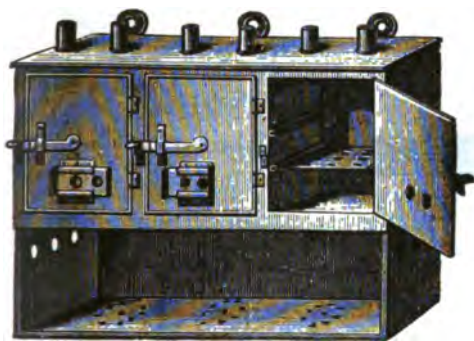
No.					
800	Drying Apparatus, Victor Meyer's. Of brazed copper, for drying at a constant temperature, inside space, 7 in. high, 6 in. diameter.....				\$10.00
801	Drying Bath, double wall, of tin. With inlet for water and opening for thermometer. Size 6x8 in.				3.00
802	Drying Bath. Same, with support, No. 812				4.00
803	Drying Bath, double wall, of copper. With inlet for water and opening for thermometer, movable shelf, and extra sheet iron bottom.				
	Size	6x8	8x10	10x12 in.	
	Each	\$6.50	9.00	12.00	
804	Drying Bath. Same, with support, No. 812, or on 4 legs.				
	Each	\$7.50	10.00	13.00	
805	Drying Bath. Same as No. 803, with Kekule's constant water level attachment.				
	Size	6x8	8x10	10x12 in.	
	Each	\$8.00	10.00	13.00	
806	Drying Bath. Same, with support, No. 812, or on 4 legs.				
	Each	\$9.00	11.00	14.00	



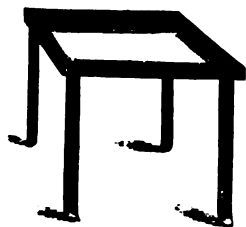
807



809



811



812

No.					
807	Drying Bath, double wall, of copper. With extra water bath on top, opening for thermometer, movable shelf and extra sheet iron bottom.	Size	6x8	8x10	10x12 in.
		Each	\$8.00	10.00	14.00
808	Drying Bath. Same, with support, No. 812, or on 4 legs.	Each	\$9.00	11.00	15.00
809	Drying Oven or Air Bath, single wall, of copper. Opening for thermometer, movable shelf, and extra sheet iron bottom.	Size	6x8	8x10	10x12 in.
		Each	\$4.00	6.00	8.00
810	Drying Oven or Air Bath. Same, with support, No. 812, or on 4 legs.	Each	\$5.00	7.00	9.00
811	Drying Oven, with 3 separate compartments, of heavy copper. Each about 7½ in. wide and with two tubulatures, extra ventilators, the whole resting on a sheet iron support for taking in the burners.....				\$20.00
812	Drying Oven Supports, of iron. With set screws by which the oven is held firmly, also arranged to fasten to table.	Size	6x8	8x10	10x12 in.
		Each	\$1.00	1.00	1.00



815



816



817

No.							
813	Emery Cloth	Sheet	\$0.10				
814	Emery Paper	Sheet	.05				
815	Files, rattail. Round, with fine points, best double cut. Length 3 4 5 6 8 in.						
	Each \$0.12 .15 .20 .25 .30						
816	Files, triangular. For cutting glass tubing, best double cut. Length 3 4 5 6 8 in.						
	Each \$0.12 .15 .20 .25 .30						
817	Files, flat. Best double cut. Length 3 4 5 6 8 in.						
	Each \$0.12 .15 .20 .25 .30						
818	File Handles.....	Doz.	.50				

FILTER PAPER.



819-820



821-822

Cut in round filters, 100 filters in a package, and in sheets of special sizes.

No.											
819	Filters, D. F. C. Co.	Strong and uniform in texture; excellent for clear and rapid filtration.									
	Dia.	4	5	6	7	8 in.					
	White, per 100	\$0.12	.15	.20	.26	.33					
820	Filters.	Gray, per 100	.11	.14	.18	.24	.28				
	In sheets, size 19x19 in., white					Ream, \$7.00;	Quire	\$0.40			
	In sheets, size 19x19 in., gray					Ream, 6.00;	Quire	.35			
821	Filters, Prat-Dumas & Co., French, round cut, white.										
	No.	7	10	13	15	19	25	33	40	45	50
	Dia.	3	4	5	6	8	10	13	15	18	20 in.
	Per 100	\$0.10	.18	.20	.25	.30	.40	.60	.80	1.00	1.20
	In sheets, size 21x17 in.					Ream, \$5.00;	Quire	.30			
822	Filters, Prat-Dumas & Co., French, round cut, gray.										
	No.	15	19	25	33	40	45	50			
	Dia.	6	8	10	13	15	18	20 in.			
	Per 100	\$0.20	.25	.30	.50	.70	.90	1.10			
	In sheets, size 21x17 in.					Ream, \$4.00;	Quire	.25			
823	Filters, Baker & Adamson's.	Washed in hydrochloric and hydrofluoric acid, giving the lowest ash of any filter paper on the market. Put up in boxes holding 100 round filters. "Double Washed."									
	Dia.	5½	7	9	11	12½	15	cm.			
	Ashes, 1 filter	.00001	.00002	.00003	.00005	.000065	.000093	gram.			
	Per 100	\$0.40	.50	.65	.80	1.00	1.20				
824	Filters, Baker & Adamson's.	Washed in hydrochloric acid only. "Single Washed."									
	Dia.	5½	7	9	11	12½	15	cm.			
	Per 100	\$0.15	.30	.45	.55	.60	.85				



826



827

No.

- 825 Filters, Schleicher & Schuell's, S. & S. No. 595. A good light paper, free of chlorine, grained surface, round filters.

Dia.	5½	7	9	11	12½	15	18½	24	32 ctm.
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Per 100	\$0.12	.15	.20	.23	.25	.30	.40	.60	1.00
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In sheets, 47x54 ctm. Ream, \$10.00; Quire \$0.60

- 826 Filters, S. & S. No. 597. A heavy paper, perfectly white and quick filtering. Round filters.

Dia.	5½	7	9	11	12½	15	18½	24	32 ctm.
------	----	---	---	----	-----	----	-----	----	---------

Per 100	\$0.15	.20	.25	.30	.35	.40	.55	.75	1.15
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In sheets 58x58 ctm. Ream, \$18.00; Quire 1.00

- 827 Filters, S. & S. No. 589, "White Ribbon." Washed with hydrochloric and hydrofluoric acid; filtering quickly and retaining BaSO₄.

Dia.	5½	7	9	11	12½	15 ctm.
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Per 100	\$0.60	.70	.90	1.10	1.35	1.60
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- 828 Filters, S. & S. No. 589, "Black Ribbon." Washed with hydrochloric and hydrofluoric acid; prepared especially for use in laboratories for metallurgy. Round filters, ashes same as No. 589 regular.

Dia.	5½	7	9	11	12½	15 ctm.
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Per 100	\$0.60	.70	.90	1.10	1.35	1.60
---------	--------	-----	-----	------	------	------

- 829 Filters, S. & S. No. 590. Washed with hydrochloric and hydrofluoric acid, the washing having been carried to the utmost limit. Round filters.

Dia.	5½	7	9	11	12½	15 ctm.
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Per 100	\$0.75	.80	1.15	1.45	1.65	2.00
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- 829a Filters, S. & S. No. 588, Folded. Entirely free from chlorine; always ready for use; packed in neat boxes of 100 each.

Dia.	12½	18½	24 ctm.
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Per 100	\$0.35	.50	.75
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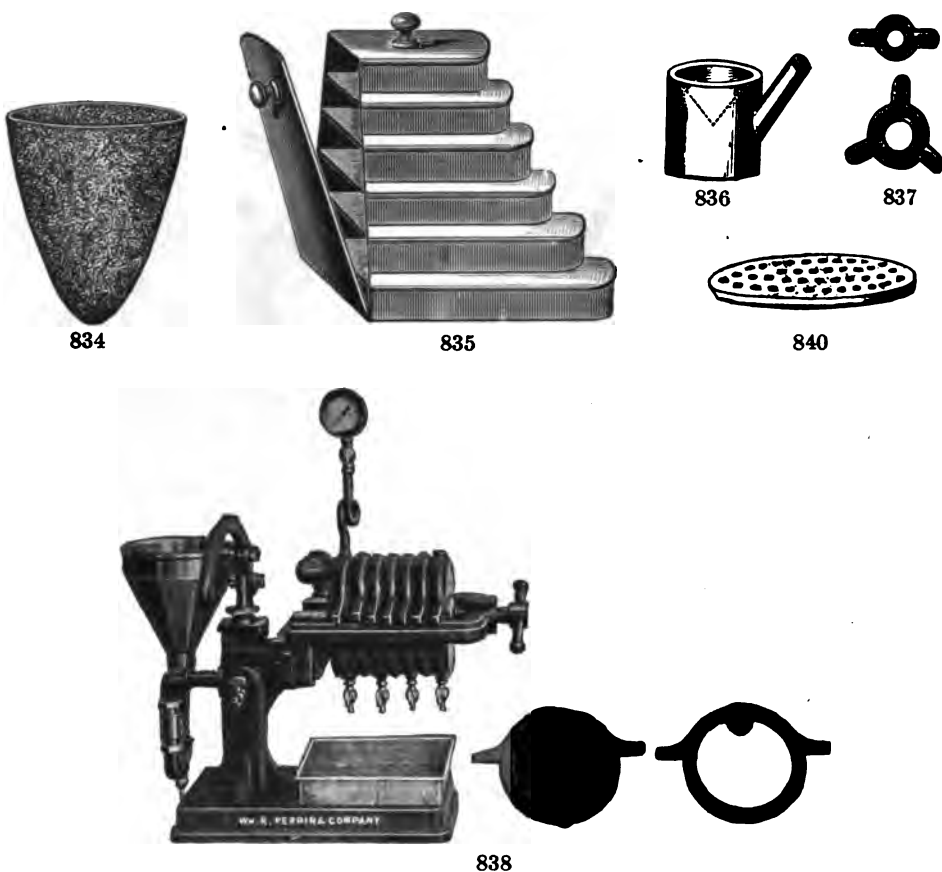


830-833



830-833

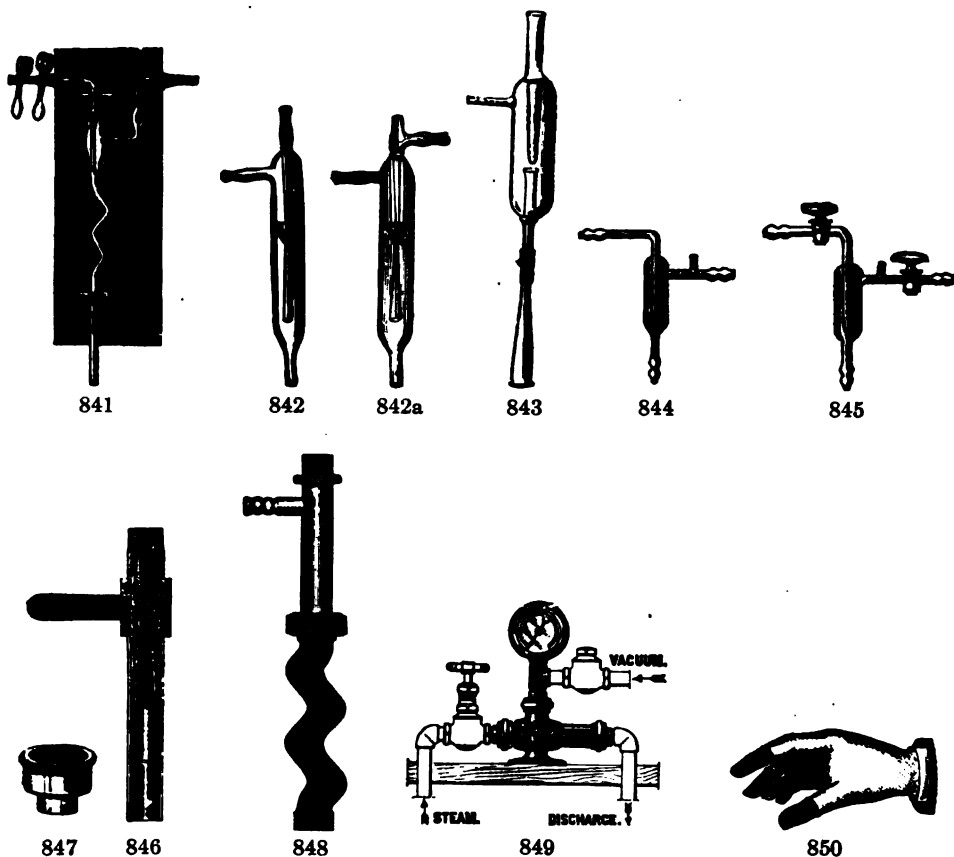
No.																	
830	Filters, Munktell's Swedish No. 0. Washed with hydrochloric acid, removing traces of iron, alumina, lime, etc; round filters.																
	<table><tr><td>Dia.</td><td>5½</td><td>7</td><td>9</td><td>11</td><td>12½</td><td>15</td><td>18½ ctm.</td></tr><tr><td>Per 100</td><td>\$0.20</td><td>.27</td><td>.42</td><td>.55</td><td>.63</td><td>.85</td><td>1.25</td></tr></table>	Dia.	5½	7	9	11	12½	15	18½ ctm.	Per 100	\$0.20	.27	.42	.55	.63	.85	1.25
Dia.	5½	7	9	11	12½	15	18½ ctm.										
Per 100	\$0.20	.27	.42	.55	.63	.85	1.25										
831	Filters, Munktell's Swedish No. 1 F. Leaves the smallest amount of ash of any unwashed paper; round filters, 5 packages in a birch bark box.																
	<table><tr><td>Dia.</td><td>5½</td><td>7</td><td>9</td><td>11</td><td>12½</td><td>15</td><td>18½ ctm.</td></tr><tr><td>Per 100</td><td>\$0.11</td><td>.16</td><td>.25</td><td>.30</td><td>.40</td><td>.50</td><td>.75</td></tr></table>	Dia.	5½	7	9	11	12½	15	18½ ctm.	Per 100	\$0.11	.16	.25	.30	.40	.50	.75
Dia.	5½	7	9	11	12½	15	18½ ctm.										
Per 100	\$0.11	.16	.25	.30	.40	.50	.75										
	In sheets 48x48 ctm..... Ream, \$20.00; Quire \$1.20																
832	Filters, Munktell's Swedish No. 2. A superior paper for laboratory work; round filters, 5 packages in a birch bark box.																
	<table><tr><td>Dia.</td><td>5½</td><td>7</td><td>9</td><td>11</td><td>12½</td><td>15</td><td>18½ ctm.</td></tr><tr><td>Per 100</td><td>\$0.10</td><td>.13</td><td>.20</td><td>.26</td><td>.31</td><td>.40</td><td>.53</td></tr></table>	Dia.	5½	7	9	11	12½	15	18½ ctm.	Per 100	\$0.10	.13	.20	.26	.31	.40	.53
Dia.	5½	7	9	11	12½	15	18½ ctm.										
Per 100	\$0.10	.13	.20	.26	.31	.40	.53										
	In sheets 48x48 ctm..... Ream, \$17.00; Quire 1.00																
833	Filters, Munktell's Swedish No. 3. A paper of superior quality, heavier than No. 2, filters rapidly; round filters.																
	<table><tr><td>Dia.</td><td>5½</td><td>7</td><td>9</td><td>11</td><td>12½</td><td>15</td><td>18½ ctm.</td></tr><tr><td>Per 100</td><td>\$0.08</td><td>.10</td><td>.15</td><td>.18</td><td>.24</td><td>.32</td><td>.41</td></tr></table>	Dia.	5½	7	9	11	12½	15	18½ ctm.	Per 100	\$0.08	.10	.15	.18	.24	.32	.41
Dia.	5½	7	9	11	12½	15	18½ ctm.										
Per 100	\$0.08	.10	.15	.18	.24	.32	.41										
	In sheets 48x48 ctm..... Ream, \$14.00; Quire .80																



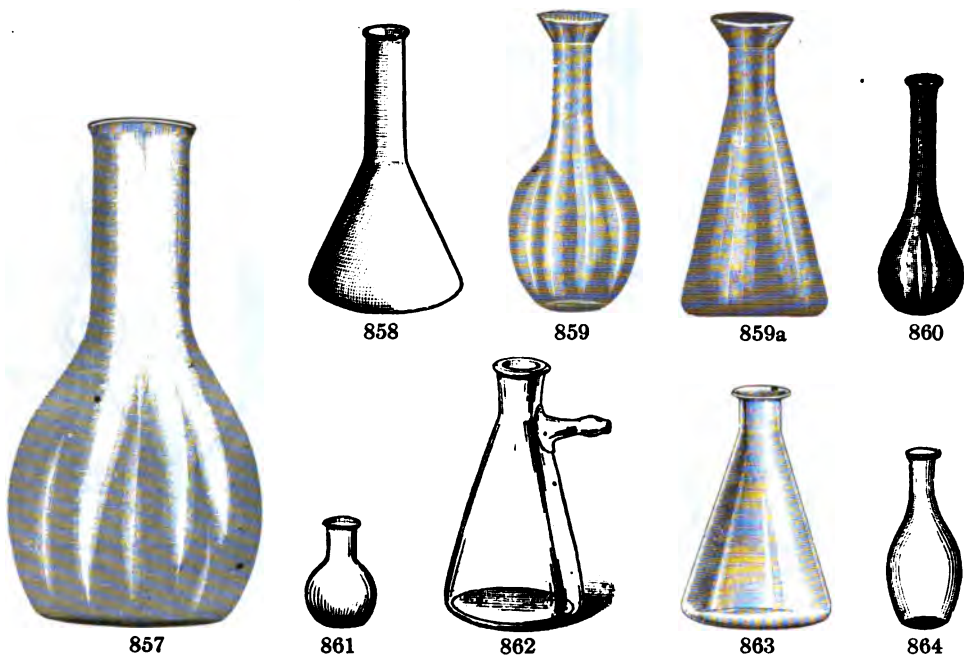
No.												
834	Filter Bags, best white, s. c.	"Felt Filters."										
	No.	1	2	3	4	5	6	7	8	9	10	
	Dia.	7	8	9	11	13	14	16	18	20	22 in	
	Capacity	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	3	4	5 $\frac{1}{2}$ gal.	
	Each	\$0.50	.60	.70	1.00	1.25	1.50	1.75	2.00	2.50	3.50	
835	Filter Case, of japanned tin, to protect round filters from dust; for 6 sizes, 5 $\frac{1}{2}$ to 15 ctm. diameter									Each	\$3.00
836	Filter Dryer, of porcelain, for drying precipitates on the filter									Each	1.50
837	Filter Rings, of porcelain, as support for funnels over beakers, etc.											
		2 arms, 25c; 3 arms										.35
838	Filter Press, experimental, round pattern, for laboratory use, built to stand a pressure of 150 pounds to the square inch; made with flat plates and frames, so that filter paper or cloth can be used; of iron, with brass valves fitted to pump, weight about 125 lbs. Price									Net	60.00
840	Filter Plates. Porcelain, with small holes.											
	Dia.	2	4	6	8	10 ctm.						
	Each	\$0.15	.20	.30	.45	.60						

Filter Cones, Filter Stands, Filter Tubes, etc., see Index.

FILTERING PUMPS.



No.				
841	Filtering Pumps, Geissler's.	With valve, the glass parts only.	\$ 1.50	
842	Filtering Pumps, Finkner's.	Glass	1.25	
842a	Filtering Pumps, Finkner's.	Glass, double suction.	1.50	
843	Filtering Pumps, Muencke's.	Glass	1.25	
844	Filtering Pumps, Fischer's.	Glass, plain	1.10	
845	Filtering Pumps, Fischer's.	Glass, with 2 stopcocks.	3.00	
846	Filtering Pumps, Chapman's.	All brass.		
	Size	Small	Large	
	Each	\$1.50	2.00	
847	Filtering Pumps, Chapman's Couplings.			
	Size	Small	Large	
	Each	\$0.40	.50	
848	Filtering Pumps, Richards'.	Brass, of superior make	1.75	
848a	Filtering Pumps, Richards'.	Brass, extra large	8.00	
849	Filtering Pumps or Universal Steam Jet Laboratory Exhauster, with 1/4-inch connections, requiring for operation a volume of steam equal to the evaporation of 12 pounds water per hour; complete with gauge and stop and check valve.		15.00	Net
850	Finger Cots.	Pure gum, thin	Doz.	.50
		Thick	Doz.	.50



No.				
857	Flasks, parting.	Colorado form, pear-shaped.		
		Capacity	$\frac{1}{2}$	1 2 oz.
		Each	\$0.10	.12 .15
		Doz.	1.00	1.20 1.50
858	Flasks, parting.	Montana style.	Capacity 1 oz.	Doz. \$1.50
859	Flasks, Low's form.	For copper determination, with funnel top.	Capacity 6 oz.	Each .20
859a	Flasks, Low's form.	For treating insoluble residues, with funnel top, capacity 4 oz.		Each .15
860	Flasks, digesting.	Bohemian glass, for Kjeldahl's nitrogen determination.	Capacity 200 250 500 cc.	
		Each	\$0.30 .40 .50	
860a	Flasks, digesting, Kjeldahl's Jena Glass.		Capacity 200 300 500 cc.	
		Each	\$0.25 .30 .40	
861	Flasks, extraction or carbonic acid.	With extra wide and low necks.	Capacity 2 4 6 8 oz.	
		Each	\$0.12 .15 .20 .25	
862	Flasks, filtering, conical, with side neck.	For use with filter pump.	Capacity 8 16 32 oz.	
		Each	\$0.35 .45 .60	
863	Flasks, filtering, Bunsen's.	Conical, very heavy glass to withstand pressure.	Capacity 16 32 oz.	
		Each	\$0.35 .50	
864	Flasks, generating, s. c.	Gas bottles.	Capacity 8 16 24 32 oz.	
		Each	\$0.20 .25 .30 .35	

FORCEPS.

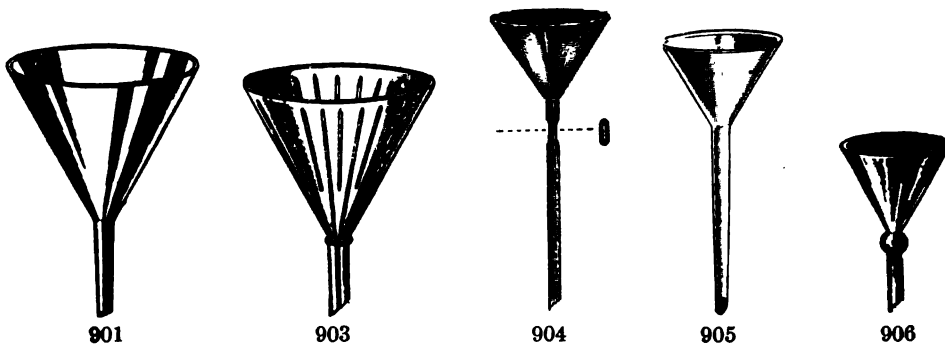


881-2 884 885 885a 886 887 888 889 890

No.		
881	Forceps, brass, bent ends.	\$0.25
882	Forceps, nickel-plated, bent ends ....	.30
883	Forceps, nickel-plated, straight ends, with ivory tips ....	.60
884	Forceps, nickel-plated, bent ends, with ivory tips. ....	.60
885	Forceps, nickel-plated, with fine points, non-magnetic. ....	.30
885a	Forceps, nickel-plated, extra stout, straight ....	.30
886	Forceps, nickel-plated, especially adapted for fine weights ....	.75
887	Forceps, Plattner's nickel-plated, forceps on both ends, with platinum tips ..	3.00
888	Forceps, French style, with heavy platinum tips.....	3.00
889	Forceps, Goosenecks, nickel-plated, 6 inches long ....	.45
890	Forceps, steel, plain, for holding lead button while slagging.	

Size	4	5	6	8 in.
Each	\$0.10	.15	.20	.40
Doz.	1.10	1.50	2.00	4.00

FUNNELS.



No.

901 Funnels, best German glass. Angle 60°, stems ground to a point.

Dia.	1½	2	2½	3	3½	4	5 in.
Each	\$0.08	.10	.12	.15	.18	.20	.25
Dia.	6	7	8	9	10	12 in	
Each	\$0.30	.40	.50	.65	1.00	1.50	

902 Funnels, glass, plain, pressed.

Dia.	4	5	6	7 in.
Capacity	4	8	16	32 oz.
Each	\$0.10	.12	.15	.20

903 Funnels, glass, ribbed, pressed.

Dia.	4	5	6	7	8½	10 in.
Capacity	4	8 oz.	pt.	qt.	½	1 gal.
Each	\$0.12	.15	.20	.25	.40	.70

904 Funnels, quick filtering. With 6-in. contracted stem, as described in Albert H. Low's "Technical Methods of Ore Analysis."

Dia.	2½	2¾	3 in
Each	\$0.20	.22	.25

905 Funnels, Bunsen's. With thin and extra long stems, top ground even, and stem ground to a point, angle 60°.

Dia.	1½	2	2½	2¾	3	3½	4 in.
Each	\$0.12	.14	.16	.18	.20	.25	.30

906 Funnels, glass, with bulb. For filtering through glasswool or asbestos.

Dia.	6	8 in.
Each	\$0.50	.75



907



908a



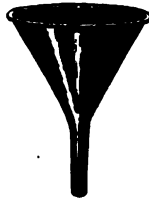
909



910



No. 911



912



913



913a

907 **Funnels, glass, Victor Meyer's.** To suspend over evaporating dishes, with tubulature.

Dia.	6	8	10 in.
Each	\$1.25	1.50	1.75

908 **Funnels, porcelain, plain, with handle.**

Dia.	4	5	6	7 in.
Each	\$0.40	.70	1.00	1.40

908a **Funnels, porcelain, ribbed inside, with handle.**

Dia.	4	5	6	7 in.
Each	\$0.50	.80	1.25	2.00

909 **Funnels, porcelain, Hirsch's.** For filtering by pressure, with fixed perforated porcelain plate.

Dia.	2½	3½ in.
Each	\$0.50	.75

910 **Funnels, porcelain, Buechner's.** With fixed perforated porcelain plate, straight walls.

Dia.	4	6 in.
Each	\$1.50	2.25

911 **Funnels, agateware.**

Capacity	½ pt.	pt.	qt.	½	1 gal.
Each	\$0.50	.55	.60	.75	1.15

912 **Funnels, hard rubber.**

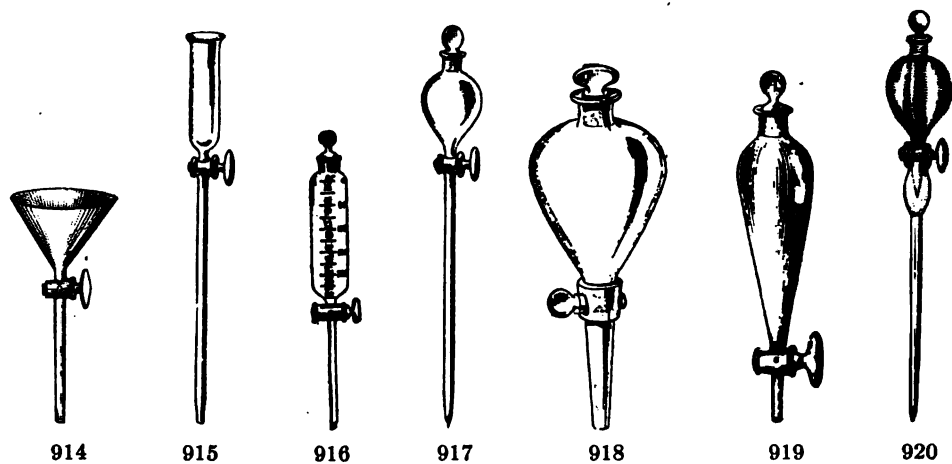
Capacity	4	6	8	16	32 oz.
Each	\$0.40	.45	.50	.65	.80

913 **Funnels, porcelain, perforated, small holes.**

Dia.	4	5	6	8 in.
Each	\$0.65	.90	1.40	1.80

913a **Funnels, porcelain, perforated, with large oval holes.**

Dia.	4	5	6	8 in.
Each	\$0.65	.90	1.40	1.80



No.

914 Funnels, Separatory, open top, usual form, angle 60°, with stopcock.

Dia.	3	4	5	6	7 in.
Each	\$1.25	1.50	1.75	2.50	3.00

915 Funnels, Separatory, cylindrical shape.

Capacity	2	4	6	8 oz.
Each	\$1.00	1.10	1.25	1.50

916 Funnels, Separatory, cylindrical, stoppered, graduated 100 cc. in 1°..... \$2.00

917 Funnels, Separatory, globe shape, light, stoppered

Capacity	2	4	6	8	16 oz.
Each	\$1.00	1.10	1.25	1.50	2.00

918 Funnels, Separatory, globe shape, heavy glass, stoppered.

Capacity	pt.	qt.	½	1 gal.
Each	\$2.25	2.75	3.25	4.25

919 Funnels, Separatory, Squibb's, stoppered.

Capacity	4	8	16 oz.
Each	\$1.25	2.00	2.75

920 Funnels, Dropping, Walter's. For examining single drops. Capacity, 60 cc.
Each

1.50



No.						
921	Funnels, tin, Plantamour's. For hot filtrations, 5½ in. on top inside					\$2.00
922	Funnels, copper, on three iron legs. For hot filtrations, dia. 6 in.					4.00
923	Funnel Tubes, thistle top.					
	Length	8	10	12	15 in.	
	Each	\$0.06	.08	.10	.12	
924	Funnel Tubes, conical top.					
	Length	10	12	15	18 in.	
	Each	\$0.10	.12	.15	.20	
925	Funnel or Safety Tube, bent; thistle top .....					.20
926	Funnel or Safety Tube, bent; conical top. ....					.20
927	Funnel or Safety Tube, with bulbs; funnel top.					
	With	1	2	3 bulbs.		
	Each	\$0.25	.30	.35		
928	Funnel Tubes. Vogel's .....					.40

ASSAY FURNACES.



Fig. 1

The comparative cheapness of soft coal as a fuel, combined with the great capacity of coal muffle furnaces, has brought these furnaces greatly into favor in many localities of the mining world. In many sections where wood is the only available fuel, at a reasonable price, the same general style of one and two-muffle furnaces is used with wood as fuel.

Figure 1 shows the front elevation of the two-muffle furnace, main stack and connections. You will note that the entire fire clay lining of all of the following laid up furnaces, as shown by the dotted sections, are special tile, ready to set into place, each tile lettered so that one can easily determine where they belong by referring to the accompanying figures. The lined sections indicate ordinary red, or building brick. The chamber under the ash pit bottom, as shown in figure 3, is essential if the furnace is to be constructed on a wooden floor, as the heat from the ash pit will often char wood through six or eight inches of brick. These

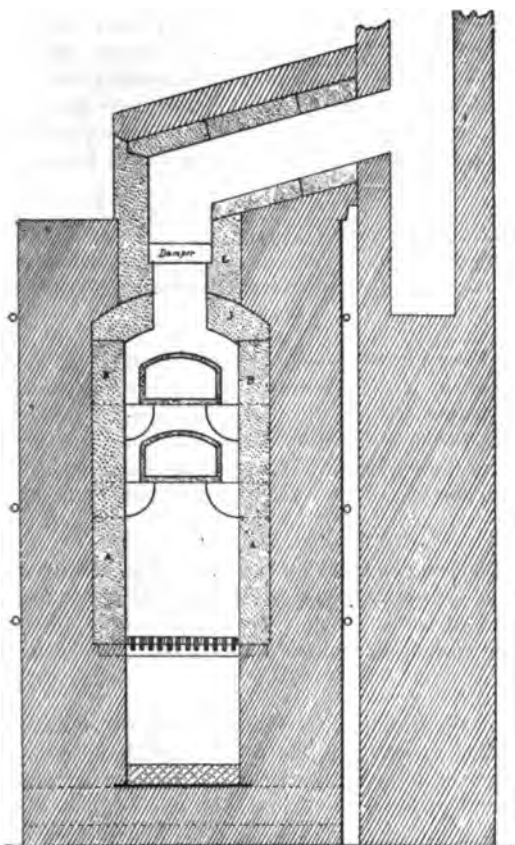


Fig. 2.

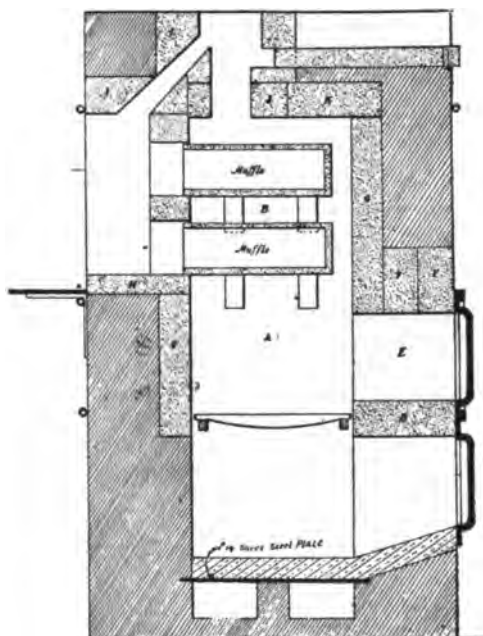


Fig. 3.

air chambers should have outlets through the outer wall as large as 2x4 inches, or whatever size may be convenient in laying the wall. The lined and dotted section which forms the floor of the ash pit indicates paving brick. These are not essential and if they are not easily obtainable hard burned building brick will answer just as well.

The piece of sheet boiler plate is built in underneath the paving brick floor so that coals and ashes will not fall through into the air chambers. This boiler plate is supplied by us with the iron work of the furnace. The furnace foundation, you will note, is constructed of building brick to the point of the grate bar, then the fire clay lining is set into place, which forms the interior of the furnace, and the building brick wall eight inches thick is carried up around it.

Each muffle, in all of the one and two-muffle furnaces, has four supports, two on either side, so situated as to best preserve the muffle. A short flue is constructed in the upper tile of the furnace to carry the fumes that escape from the front of the muffle into the stack above, emptying into the stack just above the damper. The damper tile M is not a feature that is used in every-day use in many cases, but is considered quite essential on account of the fact that the amount of draft necessary for a furnace depends altogether on the height of the stack and other conditions. After the furnace has been constructed and tried the amount of draft necessary can be adjusted by closing or opening the throat of the furnace with the damper, as required. After it is once adjusted it will very seldom need to be changed.

Where a brick stack of any size or height is necessary it should not be built on the furnace, but just to one side, as shown in figures 1 and 2, and connected with an angle stack which should be lined with fire clay tile or brick. Where it can be built according to our figures 1 and 2, our estimate on the furnace includes the special tile to line it according to figure 2. Where a longer connecting stack is necessary, on account of the furnace being further from the main stack, an additional charge would be made, depending on the amount of material necessary to line it.

The reasons for not building a stack of any height on the furnace are: That it makes entirely too much weight for the furnace to carry under the strain of expansion and contraction; also that a stack will outlast several furnaces, and does not have to be torn down each time the furnace is relined.

You will also note that all of the one and two-muffle furnaces, for wood and coal, are made to feed from the back, or the end opposite the muffle opening. This is done because the two-muffle furnaces in particular can be heated and the heat controlled much better when fed from the back, than from the side, as furnaces fed from the side throw a greater portion of heat to the side of the muffle opposite the feed door. This furnace was formerly made to be fed at the side, but was changed on account of the vast improvement found by rear feeding.

As the construction is simple (any brick mason can set it up in half the time required for a furnace lined with fire brick) the difference between the cost of the tile lining over fire brick is saved twice over in the decreased cost of construction. Then, again, it is much more durable than fire brick, making it cheaper in the long run, as well as much more satisfactory and convenient to operate.

The fire clay lining of all of the following tile furnaces, as indicated by the dotted sections of each figure, and the necessary fire clay to set it up, are included in the price of each furnace. The iron work supplied includes the piece of sheet steel under the ash pit, grate bar supports, grate bars, iron shelf in front of muffle, and brackets, angle irons and binding rods on the outside, and the fire box and ash pit doors—in fact, everything necessary to set up the furnace, except red brick.

The single muffle furnace is the same as shown in figures 1, 2 and 3, except that it is the height of one muffle lower, and is the same transverse section as figure 4 of the wood burning furnace, or the same as figure 5, longitudinal section of the wood burning furnace, from the muffle supports up.

We make these tile furnaces in the following sizes:

LL	Double Muffle Coal Furnace	Price	\$55.00
NN	Double Muffle Coal Furnace	"	60.00
QQ	Double Muffle Coal Furnace	"	65.00
UU	Double Muffle Coal Furnace	"	70.00
NN	Single Muffle Coal Furnace	"	50.00
QQ	Single Muffle Coal Furnace	"	55.00
UU	Single Muffle Coal Furnace	"	60.00

LL Muffle is 9x15x5½ inches, outside.

NN Muffle is 10½x19x6½ inches, outside.

QQ Muffle is 12½x19x7½ inches, outside.

UU Muffle is 14x19x7½ inches, outside.

Note:—The floor space required for these furnaces is about three and one-half feet by four feet.

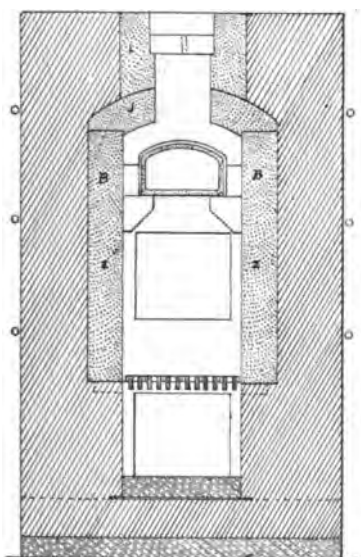


Fig. 4

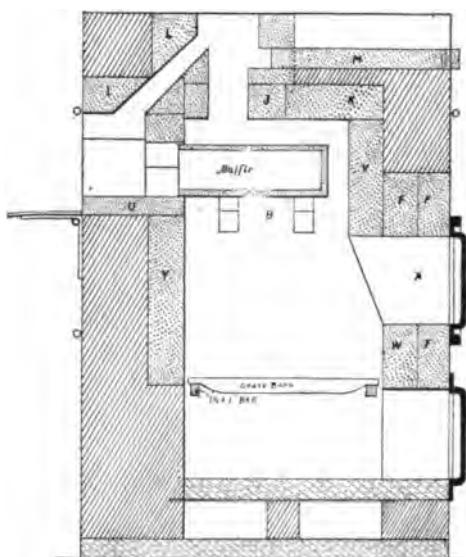


Fig. 5

WOOD BURNING MUFFLE FURNACE.

The figures 4 and 5 illustrate the end and side sections of our one-muffle wood burning furnace, which is the same as the soft coal furnace, except the size and shape of the fire box. They are made with special fire clay tile linings, each piece lettered, and the same iron work. A larger fire box and longer grate bars are necessary.

The wood-burning furnace is also made for two muffles and the construction of it is the same as shown in figures 1 and 2, or figure 3, from the fire box up. These furnaces are made to take cordwood cut in two once, or shorter if preferred. The wood furnaces are made to take the same size muffles, have the same outside appearance and the same outside dimensions, as the foregoing soft coal furnaces, and the prices below include all of the fire clay and iron portion, as described by the coal furnaces.

When referring to the above wood burning furnaces, indicate as follows:

L L	Double Muffle Wood Furnace.	Price	\$55.00
N N	Double Muffle Wood Furnace.	"	60.00
Q Q	Double Muffle Wood Furnace.	"	85.00
U U	Double Muffle Wood Furnace.	"	70.00
N N	Single Muffle Wood Furnace.	"	50.00
Q Q	Single Muffle Wood Furnace.	"	55.00
U U	Single Muffle Wood Furnace.	"	60.00

COKE BURNING MUFFLE FURNACE.

We also make a furnace similar to the above to use with coke as fuel. Write us for details and prices.

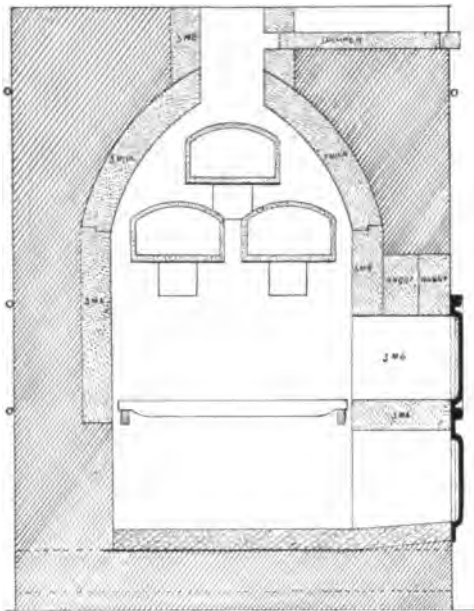


Fig. 6

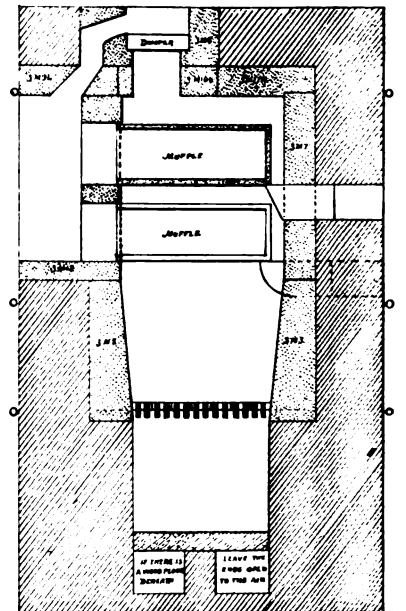


Fig. 7

COAL FURNACE.

Figures 6 and 7 show our three-muffle coal furnace, which is also made with a special fire clay tile lining, ready to set into place, each tile having an individual letter. The same method of connecting this furnace to the main stack is generally used, as is shown by figures 1 and 2 of the two-muffle furnace.

The front and back walls of the fire box lining of this furnace are drawn in to decrease the grate bar surface, which is quite an item in the saving of fuel over the old method of constructing the walls perpendicularly and leaving a larger grate bar surface. This furnace is made in two sizes, which take the same size of muffles as the two-muffle furnaces, viz.: N N and Q Q. The latter size is the one nearly always used on this furnace. The same fire box and ash pit doors are used on this furnace that are supplied with the two-muffle furnaces, and the same style of iron work throughout.

The prices of this furnace include all of the fire clay and iron portions, or everything except the building brick, and are indicated as follows:

N N Three-Muffle Coal Furnace.	Price	\$65.00
Q Q Three-Muffle Coal Furnace.	"	70.00

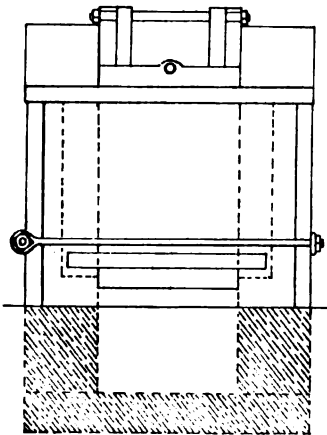


Fig. 8

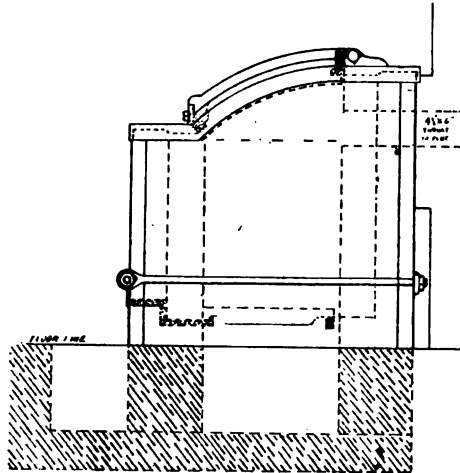


Fig. 9

BULLION OR MELTING FURNACE.

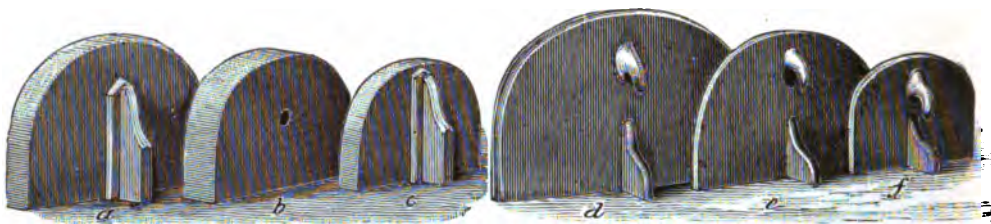
Figures 8 and 9 illustrate our special furnace made for refining bullion, and are constructed to use coke fuel. It will accommodate one plumbago crucible varying in size from No. 30 to No. 80. They are constructed with the greater part of the ash pit below the floor level, yet with the grate bars high enough so that they can easily be gotten at from the under side.

The front of this furnace is only twenty-eight inches above the floor, as it is necessary to have this style of furnace as low as possible, to make it convenient. The door frame, which completely covers the top of the furnace, is made of cast iron. The walls of the furnace are about nine inches, the inner wall, or lining, being four and one-half inches of fire brick or tile. The door, which is the same size as the inside dimensions of the furnace, is skeleton form and hinged to the cast frame. The skeleton door clamps the fire clay tile, which forms the door proper, so that no iron work is exposed on the interior of the furnace. The four corners have angle irons, which are held by one set of binding rods at the bottom and the cast frame at the top.

Where more than one crucible at a time is necessary we can supply this furnace in any number of sections necessary, up to five, the top cast frame being in one piece with the separate doors, but with no partition between the interior compartments. Only the single door frames are carried in stock; the larger ones have to be made to order.

We would also be pleased to furnish estimates on the iron and fire clay work of larger furnaces of this character.

Price of the above furnace, as described for one crucible,
complete with iron and fire clay parts \$50.00



929, Furnace Doors, Clay.

929, Furnace Doors, Iron.

No.

929 **Furnace Doors.** In ordering, please give number and letter, to avoid possible errors.

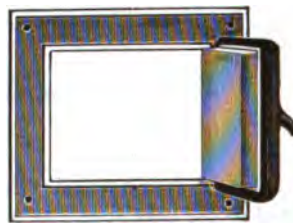
a. Fire clay door for 12x18 in. muffle	\$0.75
b. Fire clay door for 12x18 in. muffle (Omaha and Grant) .....	.25
c. Fire clay door for 9x15 in. muffle .....	.50
d. Iron door for 12x18 in. muffle .....	.75
e. Iron door for 9x15 in. muffle .....	.50
f. Iron door for reducing arch .....	.40



929a



930



930a

No.

929a	Furnace Doors, with flange, inside measurements 9 in. high, 12 in. wide..	Net \$2.00
930	Furnace Doors, with hooks, to suspend from binding bars, made of asbestos, iron bound, dimensions 16 in. wide, 17 in. high.....	Net 1.25
930a	Furnace Doors, heavy iron door and frame, inside measurements 11 in. high, 13 in. wide.	Net 3.00
	With fire clay lining or iron baffle plate.	Net 3.50



930b

930b **Furnace Grate Bars, of cast iron.**

Length	12½	14	16	18	20	22	24	30 in.
Each	\$0.18	.20	.28	.30	.40	.45	.50	.70

Note:—In estimating number required to cover fire box surface figure each complete bar 2½ inches wide.

Above mentioned lengths are carried in stock.



931



935

No.			
931	Furnace, Assay, Bosworth's.	Manufactured exclusively by The Denver Fire Clay Company. It is made of fire clay, in three sections, securely bound with heavy iron bands. Its construction is such that it is less liable to crack than other furnaces. It is much more durable and convenient. Will do more work with less fuel, heating the muffle quickly and evenly. For 9x15 in. muffle. With 1 muffle.....	\$40.00
932	Furnace.	Same as above, for 10x16 in. muffle. With 1 muffle.....	40.00
933	Furnace.	Same as above, for 8x14 in. muffle. With 1 muffle.....	35.00
934	Furnace Parts for Bosworth Furnace.		
	a.	Extra Doors, iron. ....	.50
	b.	Extra Doors, clay. ....	.50
	c.	Extra Plugs, muffle support .....	.15
	d.	Extra Plugs, poker. ....	.25
	e.	Extra Plugs, ash pit. ....	.25
	f.	Extra Grate Bars, each. ....	.20
	g.	Extra Grate Bars, set of 5.....	1.00
935	Furnace, No. 1 Assay, "Burro."	Designed and manufactured exclusively by The Denver Fire Clay Company. A very complete and satisfactory portable furnace. It is made of fire clay, in one piece, and securely bound with steel; doors asbestos lined; weight 100 lbs., taking muffle 6x12x4 in. With 1 muffle.	20.00
937	Furnace, Extra Grate for No. 935.	..... Each	1.00



938-39

- No.
938 **Furnace, Assay, Brown's**, made by The Denver Fire Clay Company, size 29 in. high, 16 in. wide by 14 in. deep; supplied regular with J Muffle 4x6x12 in., but can also be supplied with G Muffle, 4½x7x12, if desired. The furnace is made to burn charcoal or coke. Crucible fusions can also be made in the open fire on top of the muffle, working through the feed door on top, if necessary; has sectional fire clay lining bound entirely with heavy sheet iron. All doors and hinges malleable iron lined with asbestos. This is an important feature, as cast doors are continually breaking. This is the most satisfactory prospecting furnace on the market, and, where necessary to carry on pack mules, any portion of the fire clay lining may be quickly removed to divide the weight. Weight complete, packed for shipment with one muffle, 155 pounds. . . . **\$20.00**
- 939 **Furnace, Assay, Brown's No. 3**, same as above, except larger; supplied with LL Muffle 5½x9x15;—in size 33 in. high, 22 in. wide by 19 in. deep. Weight, complete, packed for shipment, 310 pounds. This is an extremely satisfactory furnace **Price 35.00**

Note:—All of the foregoing Bosworth, Burro and Brown Furnaces are for coke or charcoal only; no stove pipe is included with any of them. The Bosworth Furnace takes 6 in. pipe; the Burro and Brown Furnaces take 5 in. pipe. We can supply extra heavy pipe and elbows, made of No 22 iron, in either 5 or 6 in., at 50c per joint, net.

Hydro-Carbon Blow Pipe Outfits.



945

No.			
945	Furnace Blow Pipe No. 5, D. F. C. Co., for gasoline, equipped with a heavy steel tank of 8 gallons capacity; tinned inside and out to insure against rust, and tested to a pressure of 200 lbs.; detachable cast iron base, also fitted with large brass hand pump and pressure gauge, and supplied with 10 feet of $\frac{1}{4}$ -inch iron pipe, unions, elbows, etc., suitable to operate one, two or three burners at a time. This blow pipe is recommended for all sizes of gasoline furnaces, except the few smallest sizes, as it holds an all-day's supply of gasoline, and sufficient air space to carry a pressure from 15 to 40 minutes without pumping, depending on the number and size of the burners used; the best of material and workmanship throughout and thoroughly tested.		
	Shipping weight, 75 lbs. Price, without burner.	\$20.00	
945a	Furnace Blow Pipe No. 6, for gasoline. Similar to 945 with 15-Gallon Tank, large brass hand pump and pressure gauge. Supplied with 10 ft. of $\frac{1}{4}$ -in. iron pipe, unions, elbows, etc.		
	Shipping weight, 90 lbs. Price, without burner.	30.00	
945b	Furnace Blow Pipe No. 4, for gasoline. Similar to 945, with 4-Gallon Tank and 4 feet of $\frac{1}{4}$ -in. iron pipe and pump, but without pressure gauge.		
	Shipping weight, 60 lbs. Price, without burner.	16.00	
945c	Furnace Blow Pipe No. 3, for gasoline. Similar to 945, with 2-Gallon Tank and 4 feet of $\frac{1}{4}$ -in. iron pipe and pump, but without pressure gauge.		
	Shipping weight, 50 lbs. Price, without burner.	14.00	
945d	Swivel Joints for above, extra	Each	.75
946	Furnace, Extra Pressure Gauge, for indicating up to 50 lbs.		2.00
946a	Furnace, Extra Pump, with stand and stopcock complete.		6.00

The Case Gasoline Furnaces.

(Patented.)

The Case Gasoline Furnace (Patented) is the result of the great difficulty we have experienced during the past few years in handling gasoline furnaces of different manufacture, and the frequent complaints we have had of inability to get the proper capacity and efficiency. This has led us to look into the gasoline furnace question very carefully, and, after many months of careful experiment and actual working tests, we are putting this furnace on the market, confident that it is the most efficient and economical made.

Without going too much into detail, we may say that the principle of the Case Gasoline Furnace is such that it works just as would a clean coke fire, giving an even temperature throughout, and in the case of the muffle furnaces heating the muffle close to the opening.

We have succeeded in heating evenly a muffle 14 x 18 inches (which is very much larger than has heretofore been attempted) and, in the straight crucible furnace, we can heat successfully sixteen crucibles.

We secure the oxidizing draft by an adaptation of the ejector principle. As all operators know, this is a most vital point.

The very best of fire clay material is used in the manufacture, which insures a durable furnace under intense heat, something which has never before been given.

In the following itemized description, capacity, burner required, weight, etc., are given in detail.

The Case Crucible Furnaces.

(For Hydro-Carbon Fuel.)



954

No.
954

- | | | |
|-----------------------------------------|----------------------------------------------|----------------|
| CASE CRUCIBLE FURNACE NO. 5. | Capacity, 6 "J" crucibles. | |
| | Net weight, 180 lbs.; gross weight, 210 lbs. | |
| | Requires 2-inch Cary Burner or equivalent. | \$15.00 |
|
CASE CRUCIBLE FURNACE NO. 6. |
Capacity 8 "F" or 20 gramme crucibles. | |
| | Net weight, 80 lbs.; gross weight, 115 lbs. | |
| | Requires 1½-inch Cary Burner or equivalent | 15.00 |
|
CASE CRUCIBLE FURNACE NO. 7. |
Capacity 12 "F" or 20 gramme crucibles. | |
| | Net weight, 140 lbs.; gross weight, 175 lbs. | |
| | Requires 2-inch Cary Burner or equivalent | 18.00 |
|
CASE CRUCIBLE FURNACE NO. 8. |
Capacity 16 "F" or 20 gramme crucibles. | |
| | Net weight, 170 lbs.; gross weight, 220 lbs. | |
| | Requires 2½-inch Cary Burner or equivalent | 22.00 |

The Case Muffle Furnaces.

(For Hydro-Carbon Fuel.)



956

- | | | |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| No.
956 | <p>PROSPECTOR'S FURNACE NO. 11. Size muffle, 6 in. x 6½ in.; capacity, 4-10 gramme crucibles.
 Net weight, 47 lbs.; gross weight, 60 lbs.
 Exterior dimensions: Width, 10 inches; height, 10 inches; length, 9 inches.
 Requires Hoskins Burner or equivalent.
 This little furnace will be found very convenient where it is necessary to reduce bulk and weight to the minimum. Price.</p> | \$12.00 |
| | <p>CASE MUFFLE FURNACE NO. 12. Size muffle, 6 in. x 10 in.
 Net weight, 72 lbs.; gross weight, 87 lbs.
 Requires Hoskins Burner or equivalent</p> | 15.00 |
| | <p>CASE MUFFLE FURNACE NO. 13. Size muffle, 8 in. x 12 in.
 Net weight, 115 lbs.; gross weight, 150 lbs.
 Requires 1½-inch Cary Burner or equivalent.</p> | 27.50 |
| | <p>CASE MUFFLE FURNACE NO. 14. Size muffle, 10 in. x 16 in.
 Net weight, 220 lbs.; gross weight, 260 lbs.
 Requires 2-inch Cary Burner or equivalent</p> | 35.00 |
| | <p>CASE MUFFLE FURNACE NO. 15. Size muffle, 14 in. x 18 in.
 Net weight, 345 lbs.; gross weight, 400 lbs.
 Requires 2½-inch Cary Burner or equivalent</p> | 45.00 |

Note:—Our muffles for the Case Gasoline Furnaces owing to their shape have a much greater capacity than ordinary muffles of the same dimensions.

The Case Combination Furnaces.

(For Hydro-Carbon Fuel.)



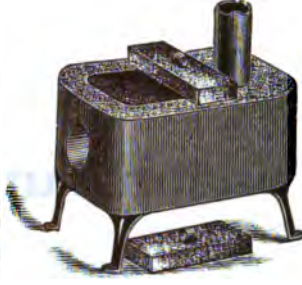
958

No.

- 958 THE CASE COMBINATION FURNACE NO. 31.** Size muffle, 6 in. x 8 in.
 Capacity 4 "G" or 20 gramme crucibles.
 Net weight, 85 lbs.; gross weight, 110 lbs.
 Requires 1½-inch Cary Burner or equivalent **\$25.00**
- THE CASE COMBINATION FURNACE NO. 32.** Size muffle, 6 in. x 8 in.
 Capacity 8 "F" or 20 gramme crucibles.
 Net weight, 125 lbs.; gross weight, 170 lbs.
 Requires 1½-inch Cary Burner or equivalent **27.50**
- THE CASE COMBINATION FURNACE NO. 33.** Size muffle, 7 in. x 10 in.
 Capacity 10 "F" or 20 gramme crucibles.
 Net weight, 170 lbs.; gross weight, 220 lbs.
 Requires 2-inch Cary Burner or equivalent **30.00**



961-2



964



971



972-3



974

No.			
961	Furnace, Crucible, D. F. C. Co.'s, No. 1. Taking 20 gramme crucible, or equivalent sizes, 4 in. diameter, 5½ in. deep inside.	\$ 4.00	
962	Furnace, Crucible, D. F. C. Co.'s, No. 2. Taking "K" crucibles or equivalent sizes, 5 in. diameter, 6½ in. deep inside.	5.00	
963	Furnace, Crucible, D. F. C. Co.'s, No. 3. Long form, taking two 20 gramme crucibles; a very effective furnace.	7.00	
964	Furnace, Crucible, D. F. C. Co.'s, No. 4. Taking four No. 9 crucibles or equivalent sizes; this is a very efficient furnace for large quantities of work.	12.00	
971	Furnace, Fletcher's Crucible, with Improved Gas Burner No. 40A.	3.50	
	The burner is almost noiseless in its action, and works with a very small gas supply, producing much more economical results than any gas burner heretofore used for the purpose of heating furnaces. Gas pipe required ½-in. Takes a No. 1 black lead or 12 gramme crucible.		
	Parts: —Furnace body . . . . .	.75	
	Furnace body and cover	1.10	
	Burner, alone.	1.50	
	Stand, without burner. . . . .	.90	
972	Fletcher's Perfected Injector Gas Furnace No. 41. For metallurgists, jewelers, chemists, manufacturers of iron and brass castings, and other purposes where an ordinary furnace is useless or unreliable. Taking No. 1 black lead or 20 gramme crucible.	4.50	
	Parts: —Furnace body.	2.25	
	Furnace body, cover and dome	3.00	
	Burner, alone.	1.50	
973	Fletcher's Perfected Injector Gas Furnace No. 41A. Larger than the foregoing, taking a No. 3 black lead or "G" crucible	7.00	
	Parts: —Furnace body.	4.00	
	Furnace body, cover and dome	5.00	
	Burner, alone.	2.00	
974	Furnace, Erdmann's. Of fire clay for gas; complete, with burner and tripod.	1.25	
975	Furnace, Erdmann's. Fire clay cylinders, alone. . . . .	.25	



980

No.

980

Furnaces, Bullion Melting. This type of Bullion Furnace, with large outlet, or chimney-hole, is designed especially for use with the Cary Burner, which takes in and burns five or six times the amount of air consumed by ordinary burners, consequently larger openings to carry off the products of combustion are necessary. Nos. 20, 21 and 22 may also be operated with Hoskins Burner by placing a brick partly over the chimney-hole, thus reducing the size of the outlet.

Bullion Furnace, No. 20. Holds black lead crucible No. 7.

Crucible compartment,	Weight packed for shipment,
Diameter, 6 inches; depth, 7 inches.	70 pounds.
Requires Hoskins Burner. Price.....	
	\$12.00

Bullion Furnace, No. 21. Holds black lead crucible No. 9.

Crucible compartment,	Weight packed for shipment,
Diameter, 8½ inches; depth, 10½ inches.	110 pounds.
Requires Hoskins Burner. Price.....	
	14.00

Bullion Furnace, No. 22. Holds black lead crucible No. 25.

Crucible compartment,	Weight packed for shipment,
Diameter, 10 inches; depth, 13½ inches.	190 pounds.
Requires Hoskins Burner. Price.....	
	18.00

Bullion Furnace, No. 23. Holds black lead crucible No. 35.

Crucible compartment,	Weight packed for shipment,
Diameter, 12 inches; depth, 16 inches.	320 pounds.
Requires Cary Burner, 2½ inches. Price.....	
	25.00

Bullion Furnace, No. 24. Holds black lead crucible Nos. 80-100.

Crucible compartment,	Weight packed for shipment,
Diameter, 18 inches; depth, 19½ inches.	360 pounds.
Requires two Cary Burners, 2½ inches. Price.....	
	40.00



984



985



986

No.

984 Burners, "Cary," Hydro-Carbon.

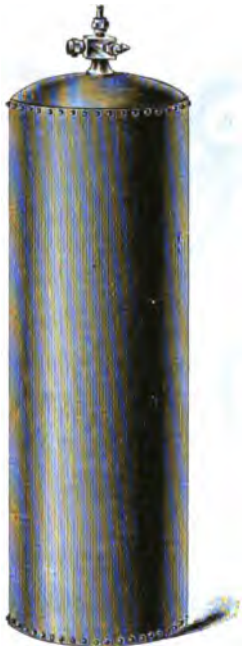
Dia.	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{2}$ in.
Each	\$10.00	11.00	12.00	13.50	15.00

985 Burners, "Sunset," Hydro-Carbon.

A cheaper, but for many furnaces, a more satisfactory article. \$4.00

986 Burners, Hoskins. A very efficient burner. 6.00

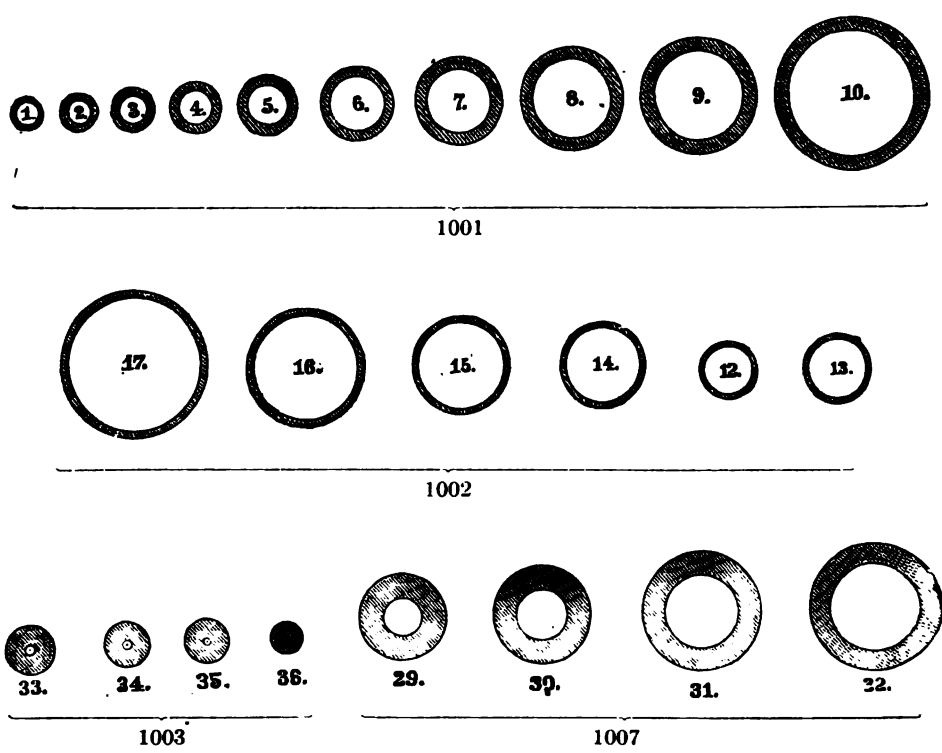
GASES.



993 and 994

No.						
990	Ammonia Gas, Anhydrous Ammonia, liquefied in 50 and 100-lb. cylinders.	lb.	\$ 0.50			
	Cylinders.	Each	25.00			
991	Carbonic Acid, liquefied, in 10, 20, 25, 50-lb. cylinders.	lb.	.35			
	Cylinders for	10	20	25	50 lbs.	
	Each	\$8.00	12.00	18.00	25.00	
992	Chlorine Gas, liquefied, in cylinders of 115 lbs.	lb.	.40			
	Cylinders	Each	45.00			
993	Hydrogen Gas, compressed, under 225 lbs. pressure.	Cubic foot	.10			
994	Oxygen Gas, compressed, under 225 lbs. pressure.	Cubic foot	.15			
	Cylinders for 993 and 994, tested to 600 lbs. and guaranteed with double needle valve.					
	Capacity	15	25	35	40	50 Cubic feet.
	Each	\$20.00	22.00	24.00	26.00	30.00
995	Oxygen Gas, pure, compressed, in small cylinders, as used in Mahler's Calorimeter, etc.	Gallon	.10			
	Cylinders, of 100 gallons capacity		15.00			
	Yoke connection for cylinder.		1.25			

GLASS TUBING.



Best German, lead free, made expressly for chemical use, for glass blowing and fitting up chemical apparatus, being strong and elastic. In lengths of 5 ft.

No.	
1001	Glass Tubing, medium wall.
	Size from 3 to 20 mm. external dia lb. \$0.50
	“ “ 21 to 50- “ “ “ lb. .60
	“ “ 51 to 65 “ “ “ lb. .75
1002	Glass Tubing, light wall. Same prices as No. 1001.
1003	Glass Tubing, barometer. From 7 to 10 mm. external dia. lb. .60
1004	Glass Tubing, capillary. From 2.5 to 5 mm. external dia. lb. 1.00
1005	Glass Tubing, combustion. Hard Jena glass. lb. .75
1006	Glass Tubing, combustion. Small sizes for blowpiping and Marsh's arsenic test lb. 1.00
1007	Glass Tubing, gauge. Well annealed, from 6 to 20 mm. external dia. . . . lb. .75
1008	Glass Tubing, gauge. Cut in any length to order. lb. 1.00



1020



1021



1022



1023



1031



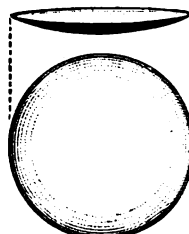
1032



1033

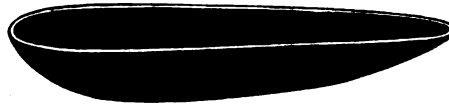


1034-5



1035a

No.							
1020	Gloves, Asbestos, with thumb and finger	Pair	\$3.00				
1021	Gloves, Asbestos, Mittens	Pair	2.50				
1022	Gloves, Black Rubber. Acid proof. For protecting the hands in handling acids, nitrate of silver, etc.						
	Size	Short	Half Long	Short	Half Long	Heavy Driving	
	No.	9 to 12	9 to 12	13	13	13	
	Gauntlet	none	4 in.	none	4 in.	5 in.	
	Pair	\$1.25	1.50	1.40	1.65	2.00	
1023	Gloves, White Rubber. For smelters, in use in chlorination and cyanide works, etc. No. 13, with 9 in. gauntlet						3.50
1024	Goggles, for protecting the eyes, colored glass	Pair	.25				
1031	Gold Pans, Miner's, polished steel. 16 in. dia., 2½ in. deep		.35				
1032	Gold Pans, Miners', polished steel, with copper bottom. 16 in. dia., 2½ in. deep						3.00
1032a	Gold Pans, Miners', all copper. 16 in. dia., 2½ in. deep						2.50
1033	Gold Pans, Miners', agate or graniteware. 16 in. dia., 2½ in. deep						1.25
1034	Gold Pans, Miners', aluminum. 15 in. dia., 2½ in. deep						2.00
1035	Gold Pans, Miners', aluminum. 12 in. dia., 2 in. deep						1.50
1035a	Gold Pans, Richard's, Vanning Plaque, of enameled iron						.75



1036-40



1042



1042a



1044

No.								
1036	Gold Washing Horns, miners'. Of plain horn, unpolished, best quality ...	\$0.75						
1037	Gold Washing Horns. Of black polished buffalo horn	1.00						
1038	Gold Washing Horns. Of hard rubber, black. ....	.75						
1039	Gold Washing Horns. Of copper.	1.00						
1040	Gold Washing Horns. Of steel, polished. ....	.40						
1041	Graduates, glass, cone shape. Guaranteed accurate.							
	Capacity	1 dram	2 drams	4 drams				
	Capacity	60 minims	120 minims	240 minims				
	Each	\$0.25	.30	.35				
1042	Graduates, glass, graduation in ounces.							
	Capacity	$\frac{1}{2}$	1	2	4	8	16	32 oz.
	Each	\$0.15	.20	.25	.30	.40	.65	1.00
1042a	Graduates, glass, conical, graduation in grammes.							
	Capacity	25	50	100	150	200	250	500 1000 gr.
	Each	\$0.40	.50	.60	.70	.80	.90	1.25 2.00
1043	Graduates, glass, double graduation, in grammes and ounces.							
	Capacity	1	2	4	8	16	32 oz.	
	Capacity	30	60	125	250	500	1000 grms.	
	Each	\$0.30	.40	.60	.80	1.20	2.00	
1044	Graduates, glass. With moulded letters; s. c. "Barclay Graduates."							
	Capacity	1	2	4	8	16 oz.		
	Each	\$0.15	.20	.25	.35	.45		



No.		1050b	1050c
1045	Hammers, blow pipe, Plattner's.	Nickel-plated, with wire handle.....	\$0.75
1046	Hammers, slagging.	Of superior "Hammond" cast steel.	
	Weight	8 oz. 13 oz. 1 lb. 1 lb. 3 oz. 1 lb. 7 oz.	
	Each	\$0.50 .55 .60 .65 .75	
1047	Hammers, Donaldson's.	Same as No. 1046, for cleaning slag anvil, with brush 2½x½ inch attached to one side of pole by screws.	
	Weight	1 lb. 1 lb. 3 oz. 2 lbs. 2 oz.	
	Each	\$1.25 1.50 1.75	
1048	Hammers, Extra Brushes,	for above .....	.50
1048a	Hammers, Striking.	For breaking up large samples, double pole....	Each 1.00
1049	Hammers, ball pein.	Best cast steel.	
	Weight	12 oz. 1 lb.	
	Each	\$0.75 1.00	
1050	Hammers, Prospecting Picks.		
	Pick length	7 8 in.	
	Each	\$1.25 1.40	
1050a	Hot Plate.	For use with gas, giving even temperature to all parts of the plate.	
	Size	18x14 18x22 18x30 in.	
	Each	\$10.00 15.00 20.00	
1050b	Hot Plate, Electric,	arranged for three heats, ranging from 100° to 600° F. In ordering always state voltage.	
	Size	12x18 12x24 18x24 in.	
	Price	\$22.00 30.00 50.00	
1050c	Hot Plates, Electrical,	round, s. c. Disc heaters or stoves.	
	8 in. diameter, 3 heats.....		12.00
	10 in. diameter, 3 heats.....		15.00
	Voltage desired must be specified in ordering.		

HYDROMETERS.



1051



1064



1068



1085

No.		
1051	Hydrometers, Acid and Heavy Liquids, Beaume, 0 to 70 in 1-1°.....	\$0.50
1052	Hydrometers, Acid and Heavy Liquids, Beaume, 0 to 90 in 1-1°.....	.75
1053	Hydrometers, Acid, Beaume, 0 to 30 in 1/2° .....	.60
1054	Hydrometers, Acid, Beaume, 30 to 60 in 1/2° .....	.60
1055	Hydrometers, Acid, Beaume, 60 to 66 in 1-10°	1.50
1056	Hydrometers, Alcohol, proof and Tralle scale .....	.60
1056a	Hydrometers, Alcohol, Tralle scale 4 in. long, for small quantities	1.25

Note:—The Specific Gravities of all liquids are referred to distilled water as a standard, the unit of comparison being 1,000 grains of distilled water at a temperature of 60 Fahrenheit. The inconvenience of measuring and weighing like bulks of liquids led to the construction of the Hydrometer, its principle of operation being that of the law of floating bodies, *i. e.*, that when a body floats, the weight of the bulk of liquid displaced is equal to the weight of the body floated.

The scales for general use, Twaddle's and Beaume's, are the

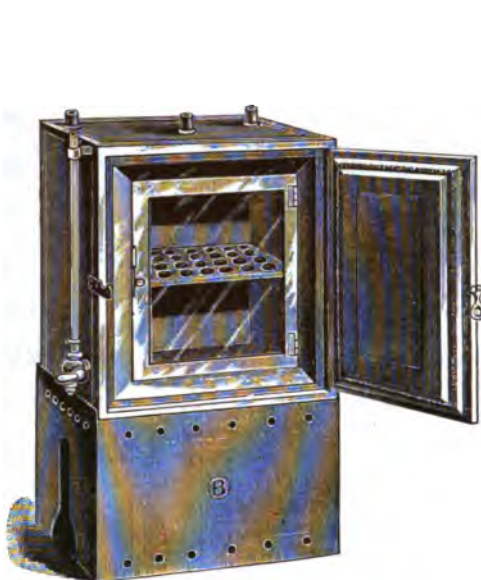
No.		
1057	Hydrometers, Alcohol, proof and Tralle scale, with thermometer, U. S. Custom House standard, with mark 100 below and 100 above proof..	\$1.75
1058	Hydrometers, Alkali and Heavy Liquids, Beaume scale, 0 to 50 in 1-1°.....	.50
1059	Hydrometers, Ammonia and Light Liquids, Beaume scale, 40 to 10 in 1-1°..	.50
1060	Hydrometers, Battery, Beaume scale .....	.50
1060a	Hydrometers, Battery, flat bulb, short, for storage batteries.....	1.00
1061	Hydrometers, Cider, Beaume scale .....	.50
1062	Hydrometers, Coal Oil, standard, as adopted by U. S. Petroleum Association; Beaume scale, 10 to 90 in 1-1° .....	.50
1063	Hydrometers, Coal Oil, with thermometer, standard, as adopted by U. S. Petroleum Association; Beaume scale, 10 to 90 in 1-1°.....	1.50
1064	Hydrometers, Coal Oil, standard, as adopted by U. S. Petroleum Association; 10 to 20, 20 to 30, 30 to 40, 40 to 50, 50 to 60, 60 to 70, 70 to 80, 80 to 90, divided in 1-10°	Each 3.00
1065	Hydrometers, Glucose, 0° to 5° in 1-1°	1.00
1066	Hydrometers, Light Liquids, Beaume scale .....	.50
1067	Hydrometers, Light Liquids, Beaume and specific gravity scale, 0,700 to 1,000	1.00
1068	Hydrometers, Light Liquids, with thermometer, Beaume and specific gravity scale	1.75
1069	Hydrometers, Light Liquids, standard, 0,700 to 0,800, 0,800 to 0,900, 0,900 to 1,000.....Each	1.00
1070	Hydrometers, Light and Heavy Liquids, universal, 0,700 to 2,000.....	1.50
1071	Hydrometers, Heavy Liquids, Beaume scale .....	.50
1072	Hydrometers, Heavy Liquids, Beaume and specific gravity scale, 1,000 to 2,000	1.00
1073	Hydrometers, Heavy Liquids, with thermometer, Beaume and specific gravity scale	1.75

most conspicuous; of the latter there are two kinds, or from 0 to 70° for liquids heavier than water, and the other from 10 to 70° for liquids lighter than water. These scales, now more generally in use among manufacturers than any other, were first published by Beaume. He constructed his Hydrometer for liquids heavier than water by preparing a solution of salt containing 15 parts of salt and 85 parts of water by weight, making the scale at the point to which it sank in pure water 0, and in the 15° salt solution 15, dividing the space between 0 and 15 into equal parts and continuing

No.		
1074	Hydrometers, Heavy Liquids, standard, 1,000 to 1,200, 1,200 to 1,400, 1,400 to 1,600, 1,600 to 1,800, 1,800 to 2,000	Each \$1.00
1075	Hydrometers, Lye, Beaume scale .....	.50
1075a	Hydrometers, Milk, giving percentage of water added.....	.50
1076	Hydrometers, Milk, N. Y. Board of Health scale, 0-120° .....	.75
1077	Hydrometers, Milk, with thermometer, N. Y. Board of Health scale, 0-120° ..	2.00
1077a	Hydrometers, Milk, Quevenne's	1.00
1077b	Hydrometers, Milk, Quevenne's, with thermometer	2.00
1078	Hydrometers, Naphtha, Beaume scale, 40° to 100°.....	.60
1079	Hydrometers, Salt or Pickle, 0° to 100° .....	.50
1080	Hydrometers, Silver, "Actinometers," complete .....	.50
	Hydrometers, Spirits, see Hydrometers for Alcohol.	
1081	Hydrometers, Sugar and Syrup, Beaume's scale, 0-50° .....	.50
1081a	Hydrometers, Sugar, Brix's Scale, plain, 0-30° in $\frac{1}{2}$ .....	.75
1081b	Hydrometers, Sugar, Brix's Scale, with thermometer	2.00
1082	Hydrometers, Vinegar .....	.50
1083	Hydrometers, Low Wine, Tagliabue's Standard	3.00
1084	Hydrometers, Wort and Beer, Kaiser's Saccharometers, with thermometer ..	1.50
1085	Hydrometers, Twaddle's No. 1, 0 to 24—1000 to 1120 S. G. .....	.60
	Twaddle's No. 2, 24 to 48—1120 to 1240 S. G. .....	.60
	Twaddle's No. 3, 48 to 72—1240 to 1360 S. G......	.60
	Twaddle's No. 4, 72 to 100—1360 to 1500 S. G......	.60
	Twaddle's No. 5, 100 to 134—1500 to 1670 S. G......	.60
	Twaddle's No. 6, 134 to 180—1670 to 1900 S. G......	.60
	Hydrometers, Urine, see Urine analysis.	

same manner. For his Hydrometer for liquids lighter than water he used a 10° solution of salt prepared in the same way, fixing 0 as the point to which this Hydrometer sank and making distilled water the 10 point, and obtained a scale as in the other instrument, but running in the opposite direction.

Twaddle's scale is converted to Specific Gravity by multiplying its degrees by 5 and adding 1000 (water) e. g. 24° Twaddle's—1120 Specific Gravity.



1088



1089



1090

No.

1088 Incubators, Bacteriological, double wall, for water only, of polished copper on sheet iron base.

No. 1300. 10 in. high, 8 in. wide, 8 in. deep inside \$40.00

No. 1305. 12 in. high, 10 in. wide, 10 in. deep inside 50.00

1089 Incubators, Bacteriological, three walls, having both air and water space; of polished copper, the outer surface being covered with insulating material to insure an even temperature; supported on sheet iron base, 10 in. high, with a door, having a mica glass for observation of the flame.

No. 1270. 9 in. high, 7 in. wide, 7 in. deep inside 40.00

No. 1272. 12 in. high, 9 in. wide, 9 in. deep inside 55.00

No. 1275. 14 in. high, 12 in. wide, 10 in. deep inside 70.00

Larger sizes and other styles of Incubators quoted upon application.

1090 Induction Coils, Ruhmkorff's, with automatic brake and of durable make on polished mahogany base.

Length of spark	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1 in.
Price	\$4.50	6.75	9.00	13.50	18.00
Length of spark	$1\frac{1}{2}$	2	3	4	6 in.
Price	\$27.00	36.00	54.00	72.00	108.00

JARS.



1091



1092



1092a

No. 1091 **Jars, Anatomical;** with a thin rubber medium under the lid to make the jar air-tight; the lid is securely fastened down with a metallic clamp. To the inner surface of the glass lid is attached a glass ring for the convenient securing of specimens.

Width of mouth	Height without lid	Capacity	
2½ in.....	4 in.....	½ pt.....	\$0.50
2½ in.....	6 in.....	¾ pt.....	.60
3½ in.....	6 in.....	1½ pts.....	.90
3½ in.....	8 in.....	2½ pts.....	1.10
3½ in.....	12 in.....	4 pts.....	1.20
5 in.....	8 in.....	2½ qts.....	1.70
5 in.....	12 in.....	4 qts.....	1.90
5 in.....	15 in.....	5 qts.....	2.10
5 in.....	18 in.....	6 qts.....	2.30
6½ in.....	8 in.....	1 gal.....	2.20
7½ in.....	8 in.....	1½ gals.....	3.20
7½ in.....	12 in.....	2½ gals.....	3.80
7½ in.....	18 in.....	3½ gals.....	4.40
7½ in.....	24 in.....	4½ gals.....	5.00

1092 **Jars, Specimen;** made of clearest flint glass, with mouths nearly as wide as jars themselves, and glass stoppers carefully ground in.

Dia. of Body	Height to Shoulder	Width of Mouth	Capacity	
3 in.....	4 in.....	2½ in.....	14 oz.....	.50
3½ in.....	6 in.....	3 in.....	29 oz.....	.70
4½ in.....	8 in.....	3½ in.....	62 oz.....	1.10
6 in.....	7 in.....	5 in.....	98 oz.....	1.70
6 in.....	12 in.....	5 in.....	168 oz.....	2.50

1092a **Jars, Specimen;** made of clear white glass, with wire clamp; glass cover fitting air-tight with rubber ring.

Capacity	½ pt.	½ qt.	1 pt.	1½ pt.
Each	\$0.10	.15	.20	.25
Dozen	1.20	1.50	2.00	3.00



1093



1093a



1094



1094a



1095



1095a

No.

1093 Jars, Storage, plain round jars, pressed glass lids.

Capacity	$\frac{1}{4}$	$\frac{1}{2}$	1 gal.
Each	\$0.40	.60	.85

1093a Jars, Show Bottles, inverted, for ore or sugar samples.

Capacity	4	8	16	32 oz.
Each	\$0.15	.20	.25	.40
Dozen	1.50	2.00	2.50	4.00

1094 Jars, screw capped, nickel-plated cover, high form.

Capacity	4	8	16 oz.
Doz.	\$1.00	1.50	2.00

1094a Jars, screw capped, nickel-plated cover, low form.

Capacity	1	2	4 oz.
Doz.	\$0.60	.80	1.00

1095 Jars, Precipitating, with lip; stout glass.

Capacity	$\frac{1}{4}$ pt.	$\frac{1}{2}$ pt.	1 pt.	1 qt.	$\frac{1}{2}$	1	2 gal.
Each	\$0.20	.25	.35	.50	.80	1.25	2.50

1095a Jars, Millville, Chemical, a substitute for Woulff Bottles, Chemical Flasks, etc., with solid and perforated lids, rubber stoppers and glass tubing, ready for use.

Capacity	$\frac{1}{4}$	1	2	4 pts.
Each	\$0.80	.90	1.00	1.10

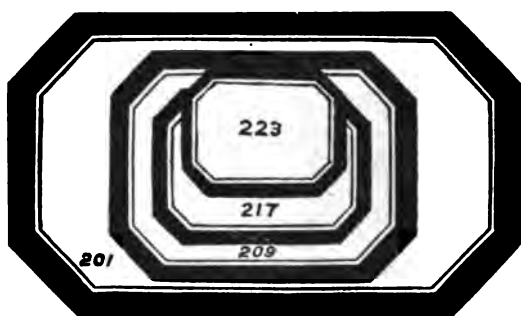
SILVER NITRATE

 Ag NO_3

1101



1102



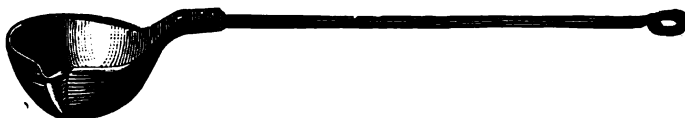
1102



1096



1099



1103

No.

1096 Jugs, of earthenware for mercury, etc.

Capacity	2	4	8	16 oz.
Doz.	\$0.60	.90	1.20	1.50

1099 Knives, Amalgam. With handle, blade $3\frac{1}{2}$ inches wide \$0.50

1100 Knives, of steel, for cutting glass tubing75

1101 Label Books, with names and formulas of the most used chemicals and reagents; strip form, gummed and perforated.40

1102 Labels, gummed paper, red colored rims, Nos. 201, 209, 217, 223, 261... Box .08

1103 Ladles, Melting, wrought iron, with lip.

Dia.	2½	3	4	5	6 in.
Each	\$0.30	.40	.50	.60	.80

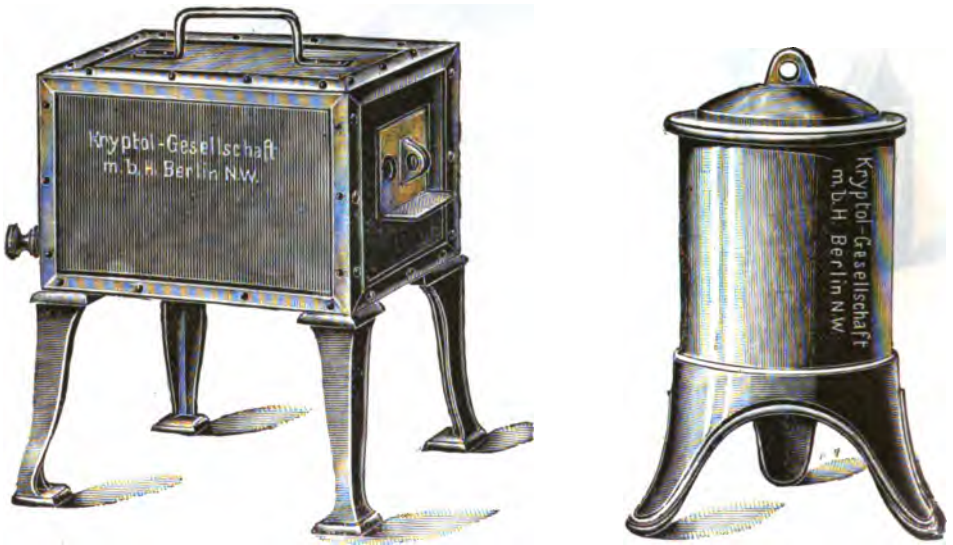
KRYPTOL

Electrical Furnaces and Heating Apparatus

SUCH AS

DRYING OVENS, HOT PLATES, WATER BATHS, ETC.

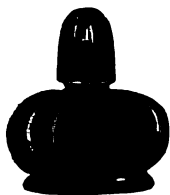
IMPORTED TO ORDER.



Kryptol Furnaces combine the practical with the economical and are in many respects superior to the other types of electric furnaces for laboratory work. They are adaptable for either 220-volt or 110-volt circuit. The temperature can be quickly raised to 2,000° C. and above without burning out the furnace; or the temperature may be regulated easily by spreading a thicker or thinner layer of kryptol mass on the plates in the furnace, enabling the operator to produce simultaneously different temperatures desired at different parts of the furnace. As the kryptol mass itself furnishes the resistance there is no burning out of wires.

PRICES QUOTED UPON APPLICATION.

LAMPS.



1111



1112



1113



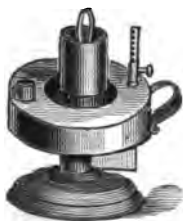
1113a



1114

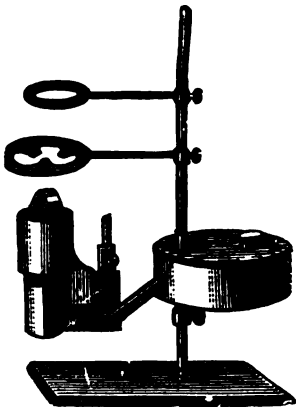


1115-16

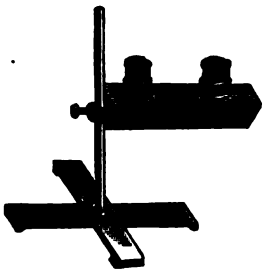


1118

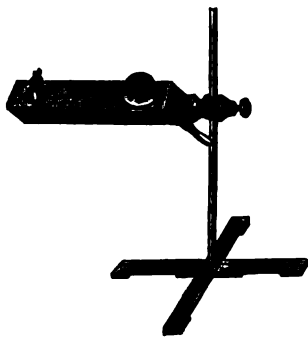
No.							
1111	Lamps, Alcohol, glass.	With ground on cap, wick and wickholder.					
	Capacity	2	4	8 oz.			
	Each	\$0.25	.30	.40			
1112	Lamps, Alcohol, glass.	With ground cap, wick and wickholder, side tubulature and stopper.					
	Capacity	1	2	4	8 oz.		
	Each	\$0.35	.40	.45	.60		
1113	Lamps, Alcohol, brass.	With screw top.					
	Capacity	2	4	8 oz.			
	Each	\$0.40	.50	.60			
1113a	Lamps, Alcohol, brass.	With ratchet burner.					
	Capacity	4	7 oz.				
	Each	\$0.50	.60				
1114	Lamps, Alcohol, Clark's.	Having nine facets on the font, it may be readily adjusted to any required position. Very desirable for chemists' and assayers' use. Suitable also for heavy oil.					
	Capacity	2	4	4 oz.			
	Burner	3-16	$\frac{1}{2}$	$\frac{1}{2}$ in.			
	Each	\$0.60	.75	.85			
1115	Lamps, Fletcher's.	For sperm oil, of polished brass.				\$0.75	
1116	Lamps.	Same as above, nickel-plated.				1.00	
1116a	Lamps, Fletcher's.	A modified form of No. 1115, for tallow or solid fats.				.35	
1117	Lamp Wicks for above lamps				Bundle	.10	
1118	Lamps, Berzelius, brass.	With Argand burner, for alcohol or kerosene, with adjustable wickholder.				4.00	



1119



1120



1121



1122



1123

No.		
1119	Lamps, Rose's, brass. With sliding rod, chimney, triangle, and two brass rings, on mahogany base	\$6.00
1120	Lamps, Plattner's, nickel-plated. On stand	3.00
1121	Lamps, Plattner's, nickel-plated. With patent swivel	4.00
1122	Lamps, Barthel's, for hard soldering. To burn alcohol, giving a pointed flame of great intensity up to 1300° C	5.00
1123	Lamps, Dangler's Laboratory. For gasoline. The most intense heat can be obtained from this burner, which can be easily and instantly regulated at will; pressure regulated by rubber bulb	5.00
	Same, with copper tank	6.00
1123a	Burner, for same, only	2.00
1124	Extra Rubber Bulbs, for same . . . . .	.40

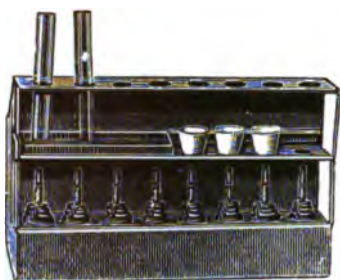


No.

- 1125 **Lamps, Kellogg's. For gasoline.** Indispensable where a Bunsen Burner flame is required and no gas available. It gives as much heat as several Bunsen Burners, and is better than alcohol lamps. There is no smell, as the gas is consumed as soon as produced, no wick necessary. Complete as per sketch..... **\$12.00**
- 1126 Burner for same only **7.50**
- 1126a **Lamps, Kellogg's Gasoline Laboratory Lamp No. 2.** This lamp gives a pure blue flame and intense heat. Can be easily and instantly regulated at will. The slide grate allows articles to be placed as near fire as desired. Can be kept hot for use by putting cap on top of burner and turning off part of the force of vapor..... **6.00**
- 1127 **Lamps, Kellogg's New Vapor Lamp.** Can be used in sets of two or more lamps, using the same tank..... **3.00**



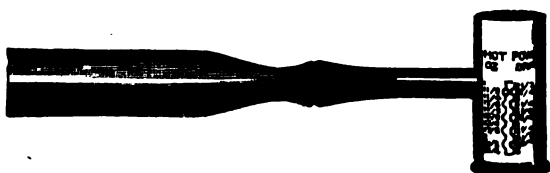
1127a



1128



1129



1131



1132



1133



1134

No.					
1127a	Lamps, Miner's Acetylene. "The Standard," gives a light of about 20 C. P. in the beam, burns from two to three hours on a charge of 1½ oz. carbide. Measures 3x1½ inches and weighs 5 ounces.				
	Price.....				\$1.00
	Calcium carbide for same, 2-lb. tin.....				.25
	Calcium carbide for same, 10-lb. tin.....				1.00
1128	Lamps, Parting. By H. W. Leavens; for alcohol; galvanized iron, very strong; shelves for sand bath and annealing cups; upper shelf perforated for holding test tubes.				
	Burners	6	8	12	
	Each	\$3.00	3.50	4.50	
1129	Lamps, Parting. Same as preceding, except upper shelf is left out so as to use flasks instead of test tubes. Hood and pipe attached for carrying off fumes.				
	Burners	6	8	12	
	Each	\$3.50	4.00	5.00	
1130	Lamp Wicks for parting lamps.....				Doz. .10
1131	Lead Measures, of improved construction, for test lead.....				.25
1131a	Lead Foil, chemically pure. Put up in rolls the following widths, 2, 3, 4, 5 and 6 inch. Please state width wanted in ordering.				
	Price per lb .....				.25
	Lenses; see Magnifiers.				
1132	Levels, glass; not mounted.				
	Length	3	4	5	6 in.
	Each	\$0.12	.15	.20	.25
1133	Levels, mounted; in nickel-plated casings.				
	Length	3	4	5 in.	
	Each	\$0.50	.60	.70	
1134	Levels, round brass case; nickel-plated, 1½ in. dia.....				.75

MAGNIFYING LENSES.



1141



1142



1143



1143a

No.

1141 **Magnifiers, in rubber case, folding, best quality.**

Glasses	1	2	3
Each	\$0.40	.60	.80

1142 **Magnifiers, in metal case, folding, best quality.**

Glasses	1	2	3
Each	\$0.60	.80	1.00

1143 **Magnifiers, Coddington's. In metal case, nickered.**

Dia.	$\frac{1}{2}$	$\frac{3}{4}$	1 in.
Each	\$1.25	1.50	1.75

1143a **Magnifiers. "Globe."** The Globe lens is a perfect sphere, consisting of a hollow flint glass globe, made in halves, and inclosing a solid crown glass globe. By the principle of its construction the aberrations are corrected to a higher degree than has heretofore been obtained by any other construction. This lens has an optical axis in any direction, hence the field is perfectly flat and distinct to the outer edges; and what is true of no other lens, the field is always the largest possible. Pocket Magnifiers made on this principle are furnished as follows:

No. 290—1-inch focus, nickel-plated brass mount, magnifying 11 diameters.....	\$5.00
No. 291— $\frac{3}{4}$ -inch focus, nickel-plated brass mount, magnifying 14 diameters.....	5.00
No. 292— $\frac{1}{2}$ -inch focus, nickel-plated brass mount, magnifying 21 diameters.....	8.00



1144



1145



1146



1147



1148



1148a

1144 Magnifiers, thread counters. Folding, brass frame, $\frac{1}{4}$ inch..... \$0.30

1145 Magnifiers, tripods, brass. With screw adjustment for focus..... .50

1146 Magnifiers, new "aplanatic." Giving a perfectly flat field of great brilliancy and definition. Illustration giving full size 1.00

1147 Magnifiers, "reading glasses," best quality. Very best finished lens, nickel-plated frame.

Dia.	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5 in.
Each	\$0.60	.80	1.00	1.50	2.00	2.50	3.00

1148 Measures, Agateware, with handles.

Capacity	pt.	qt.	$\frac{1}{2}$ gal.	1 gal.
Each	\$0.50	.70	.80	1.20

1148a Measuring Tapes, steel, inches and centimeters, in German silver case.

Length	3	6	12 ft.
Each	\$1 50	2.25	3.50

MICROSCOPES.



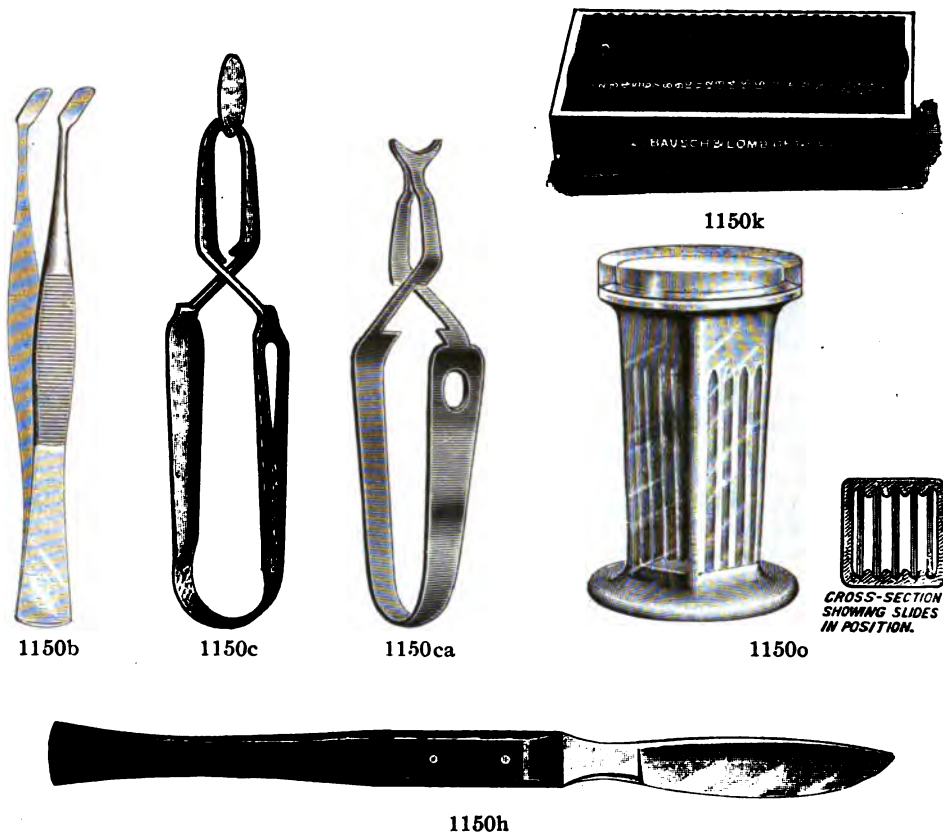
**MICROSCOPES OF ANY MANUFACTURE, DOMESTIC
OR FOREIGN, QUOTED ON APPLICATION.**

MICROSCOPE ACCESSORIES.

GRUEBLER'S STAINS AND OTHER MICROSCOPIC ACCESSORIES.

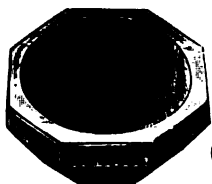
Bismarck Brown.....	Per 10 gramme vial	\$0.25
Eosin, soluble in water.....	" 10 " "	.30
Eosin, soluble in alcohol.....	" 10 " "	.35
Fuchsin, for bacilli.....	" 10 " "	.30
Fuchsin Acid.....	" 10 " "	.35
Gentian Violet.....	" 10 " "	.30
Haematoxylin, pure, crystals.....	" 10 " "	.85
Methyl Blue.....	" 10 " "	.45
Methyl Green.....	" 10 " "	.45
Methyl Violet, 5-B.....	" 10 " "	.35
Methylene, Blue, for bacilli.....	" 10 " "	.30
Neutral Red.....	" 10 " "	.75
Orange G.....	" 10 " "	.25
Safranin, soluble in water.....	" 10 " "	.40
Borax Carmine, dry.....	" 10 " "	1.00
Immersion Oil.....	" 10 " "	.30
Carbol Fuchsin Solution.....	Per 100 gramme bottle	.30
Ehrlich's 3 Color Mixture.....	" 30 " "	.45
Ehrlich's 3 Color Mixture.....	" 50 " "	.75
Ehrlich's 3 Acid Solution.....	" 30 " "	.35
Ehrlich's 3 Acid Solution.....	" 50 " "	.60
Delafield's Haematoxylin Solution.....	" 30 " "	.20
Delafield's Haematoxylin Solution.....	" 50 " "	.30
Gabbet's Methylene Blue Solution.....	" 100 " "	.40
Loeffler's Methylene Blue Solution.....	" 100 " "	.40
Alum Carmine Solution.....	" 100 " "	.50
Biondi-E-H 3 Color Solution.....	" 30 " "	.30
Agar-Agar, best quality, in shreds.....	lb.	.80
Alcohol, absolute.....	Pint	.75
Aniline Oil, pure.....	lb.	.60
Canada Balsam, pure.....	"	.60
Canada Balsam, clear, filtered.....	"	1.20
Canada Balsam, in 20 cc, collapsible tubes.....	Each	.25
Cellordin, Scharing's, in shreds.....	oz.	1.00
Chloroform, pure.....	lb.	.60
Chloroform, Squibb's.....	½ Kilo.	1.25
Ether, U. S. P. 1880.....	lb.	.80
Ether, Squibb's.....	½ Kilo.	1.50
Fibrin, from blood.....	oz.	.35
Formaldehyde 40 %.....	lb.	.30
Gelatin, best German, Gold Label.....	"	.80
Glycerine, pure.....	"	.30
Oil Bergamot.....	"	3.50
Oil Cedar.....	"	1.10
Oil Cloves.....	"	2.00
Oil Lavender.....	"	3.00
Oil Origanum, creticum.....	oz.	.30
Oil, Turpentine, redistilled.....	lb.	.50
Osmic Acid.....	gramme	2.50
Paraffin, medium.....	lb.	.20
Pepton, Witte's.....	100 gramme	1.25
Toluol, pure.....	lb.	.50
Xylol, pure.....	"	.50

Above articles are kept in stock. Others supplied at regular market prices.



No.			
1149	Microscopic Covers No. 2.	$\frac{1}{4}$, $\frac{3}{8}$ or $\frac{1}{2}$ in.	
	Round, per ounce		\$1.00
	Square, per ounce.		.90
1150	Microscopic Slides, white, ground edges, 3x1 inch.		
	Medium, thick, per gross.		1.00
	Extra thin, per gross		1.10
	With concave centers, per dozen		.75
1150a	Balsam Bottles. See Fig. 516.	Each	.30
1150b	Cover Glass Forceps, bent blades.	"	.50
1150c	Cover Glass Forceps. Cornet's	"	.45
1150ca	Cover Glass Forceps. Cornet's improved	"	.75
1150d	Dropping Bottles, see Fig. 521.	"	.20
1150e	Glass Rods, with platinum wire	"	.40
1150f	Labels, for slides, gummed paper, 22x15 mm	Box	.15
1150g	Petri Dishes, see Fig. 798.	Each	.35
1150h	Scalpels, blades of best steel.	"	.25
1150i	Section Lifters, nickel-plated.	"	.30
1150k	Slide Boxes, Pillsburg's, for 25 slides	"	.15
1150l	Slide Boxes, Leitz's, for 100 slides	"	.60
1150m	Slide Holder, wire form	"	.20
1150n	Staining Dishes, see Fig. 799.	Per Doz.	1.00
1150o	Staining Jars, Coplin's, for 10 slides.	Each	.50

MORTARS.



1151



1152



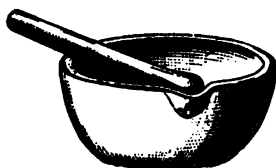
1153



1154



1155



1156



1156a

No.

1151	Mortars, agate.	With pestles; best quality.					
	Dia.	1½	2	2½	3	3½	4 in.
	Each	\$1.50	2.00	3.00	4.50	7.00	9.00
	Dia.	4½	4½	5	5½	6 in.	
	Each	\$10.00	12.00	15.00	25.00	32.00	

1152 Mortars, Diamond, Plattner's. For crushing small quantities of ore or for flattening silver buttons; made of the best tool steel, hardened and well finished.

Size Small Large.

Each \$3.60 5.50

1153 Mortars, Diamond, Leed's. Of hardened steel \$2.00

1154 Mortars, steel. Polished inside and out; with pestle.

Dia. 3½ 4½ 5½ in.

Each \$1.75 2.25 3.00

1155 Mortars, glass. With lip and pestle.

Capacity 2 4 8 16 32 oz.

Each \$0.25 .30 .40 .60 .80

1156 Mortars, porcelain, shallow form. Best make, with lip, rough inside; pestle all porcelain.

Capacity 1½ 2 3 6 10 16 22 32 oz.

Dia. 2½ 2½ 3½ 4 4½ 5½ 6½ 7½ in.

Each \$0.30 .35 .40 .50 .60 .80 1.20 1.50

1156a Mortars, porcelain, deep form, for mixtures, etc.

Dia. 4 5 6 7 8 in.

Each \$0.60 .80 1.10 1.40 1.80



1157



1158



1159

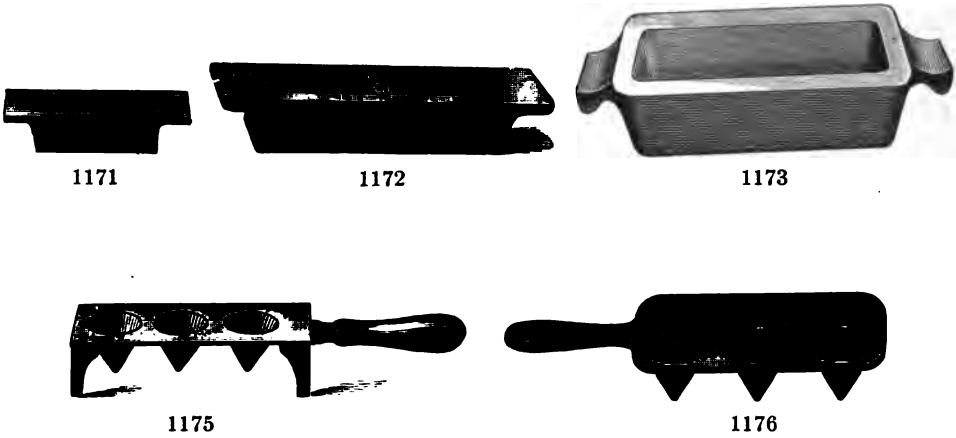


1160

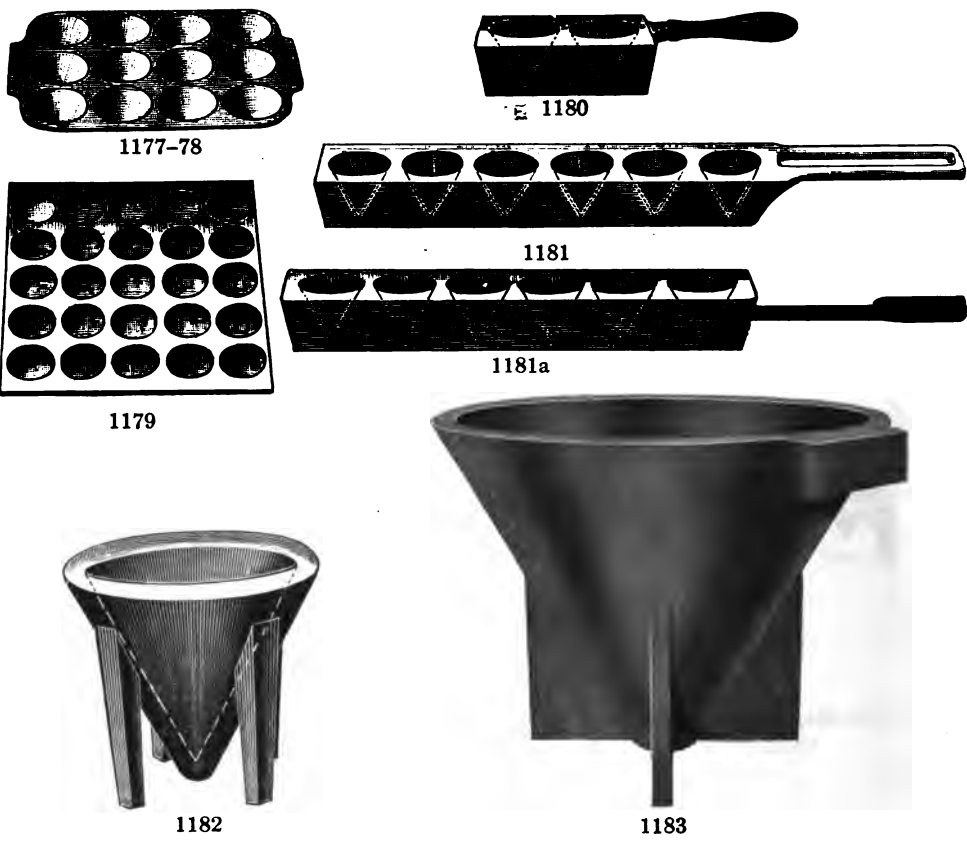
No.

1157	Mortars, Wedgewood.	Best quality; pestle with wooden handle.							
	No.	0000	000	00	0	1	2	3	4
	Dia.	3	3½	3½	4	4½	5	6	6½ in.
	Capacity	2	3	4	6	11	16	24	30 oz.
	Each	\$0.40	.45	.50	.55	.60	.80	1.00	1.25
	No.	5	6	7	8	9	10	12	
	Dia.	7	8	8½	9½	10½	12	14 in.	
	Capacity	40	48 oz.	3½	4½	7	10	17 pts.	
	Each	\$1.65	2.00	2.50	3.00	3.50	4.50	6.00	
1158	Mortars, iron, No. 1, high style.	Best quality for powdering ore.							
	Capacity	1 pt.	1 qt.	½	1	2	3 gal.		
	Each	\$0.50	.75	1.00	2.00	3.00	5.00		
1159	Mortars, iron, No. 2, low style.	Best quality.							
	Capacity	1 qt.	½	1	2 gal.				
	Each	\$0.75	1.00	2.00	3.00				
1160	Mortars, Case-Buck's, improved, of iron.	For grinding and amalgamating.							
	By the rotation of the muller a large sample of ore can be ground in contact with quicksilver.								
	Dia.	6½	8½ in.						
	Weight	30	60 lbs.						
	Muller	16	28 lbs.						
	Each	\$6.00	7.50						

MOULDS.

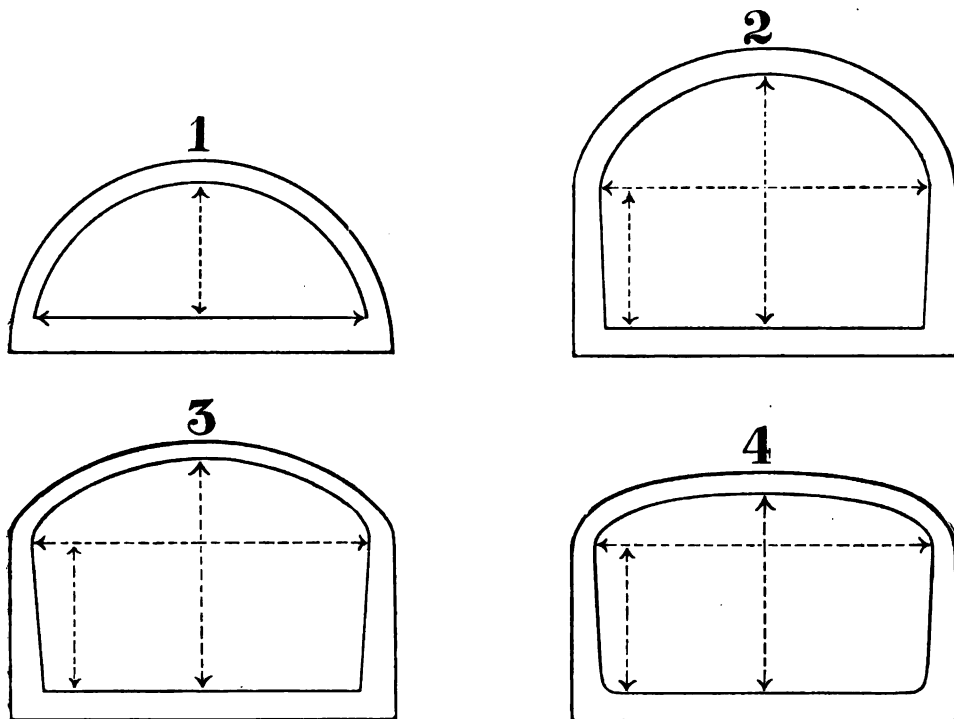


No.				
1171	Moulds, Ingot or Bullion, inside dia. 1x1x3½ in., capacity 35 oz. gold, 18 oz. silver			\$0.50
1172	Moulds, Ingot or Bullion, inside dia. 1½x1½x8 in., with sliding bar to cast any length desired, capacity 150 oz. gold, 75 oz. silver.....			1.00
1173	Moulds, Ingot or Bullion. Capacity of moulds is figured filled to about 3-16 in. off top.			
		Capacity in ozs.	Capacity in ozs.	
	Size, Inches	Pure Gold	Silver	
	3½x1 x1	20.....	10 .....	.50
	3½x1½x½	50	25 .....	.75
	4 x2 x2	100.....	56 .....	.75
	5½x2½x2½	250.....	140	1.25
	6½x3½x3½	500.....	275	1.50
	9 x3½x3½	1000.....	550	3.00
	11 x4½x4½	2000.....	1100	5.00
	11½x5½x4½	2500.....	1350	6.00
	15 x7 x6	5000.....	3000	7.00
1174	Lettering on above moulds, per letter. ....			.05
1175	Moulds, Pouring, iron, with 3 conical depressions, bottom running down to a fine point, wood handle; for lead or scorification .....			.60
1176	Moulds, Pouring, iron, with 6 conical depressions and handle, bottom running down to a fine point; for scorification .....			.60



No.			
1177	Moulds, Pouring, iron, with 12 conical depressions, 2½ in. dia., 1 in. deep; for crucible or scorification assays.....		\$0.75
1178	Moulds, Pouring, iron, with 12 conical depressions, 3 in. dia., 1½ in. deep; for crucible or scorification assays.....		1.50
1178a	Moulds, Pouring, iron, with 20 conical depressions, 2½ in. dia., 1 in. deep for crucible or scorification assays.....		1.50
1179	Moulds, Pouring, cast iron, with 25 spherical depressions; for crucible or scorification assays.....		1.00
1180	Moulds, Pouring, heavy solid iron, with 2 conical machined depressions, 2½ in. dia., 1½ in. deep; wood handles; for crucibles and scorification assays.....		1.25
1181	Moulds, Pouring, heavy solid iron, with 6 conical depressions, 2½ in. dia., 1½ in. deep, cast iron ring handle; the slag will cool rapidly.....		2.00
1181a	Moulds, Pouring, as above, with 6 conical depressions, 2 in. dia., 1½ in. deep, with wrought iron ring handle.....		2.50
1182	Moulds, Pouring, for large crucibles, only one large conical depression, 6 in. dia., 5 in. deep.....		2.00
			4.00
1183	Moulds, Pouring.		
	Size for	Weight, lbs.	
No.	7—Black Lead Crucible.....	16	2.00
No.	10—Black Lead Crucible.....	27	3.50
No.	16—Black Lead Crucible.....	35	4.50
No.	25—Black Lead Crucible.....	50	6.00
No.	35—Black Lead Crucible.....	60	7.00
No.	50—Black Lead Crucible.....	85	8.00
No.	80—Black Lead Crucible.....	105	8.75
No.	100 or 125—Black Lead Crucible.....	135	10.00

MUFFLES.



No. 1191 **Muffles, D. F. C. Co.** Our own manufacture, are guaranteed equal to any in the world. We list herewith **eighty regular stock sizes**, so evenly divided from minimum to maximum sizes, that we believe that our patrons will be able to select from our list muffles to exactly suit their requirements, and thus avoid the delay and expense of making special sizes to order. If not, we will be pleased to make to order any special sizes, and as quickly as possible.

Note:—In explanation of the following list, muffles should always be ordered by letter, as, on account of the slight difference in the size of many muffles, description by letter reduces chance of error to a minimum. You will note that the outside dimensions of width, length and height, also shape (as indicated by the four diagrams at the top of page), are given in **Bold Type**. These are given for the convenience of determining which muffles will be best fitted to the opening in furnace, or muffle arch. From an $\frac{1}{8}$ to $\frac{1}{4}$ -inch play should be allowed between muffle and muffle arch. Columns 6, 7 and 8 in light type, denote inside dimensions; column 6 gives inside width, at the widest place, or at a point just under the spring of the arch, as shown by horizontal line in the above four diagrams; dimension is given for the convenience of determining how many of a given size, crucible or scorifier, will go abreast in muffle. Column 7 gives inside height at side of muffle, or the distance from the bottom to the spring of the arch, see shortest vertical line near side in above diagram. This dimension is given to determine how high a crucible can be used at the extreme side of muffle. Shape No. 1 does, of course, not have this dimension. Column 8 gives the greatest inside height, as shown by vertical line in center of the above four diagrams. Inside length is the same as outside, less thickness of wall in back end, which varies from $\frac{3}{8}$ to $\frac{1}{2}$ inch. Vent holes are always in back end except on BB, C and FF, which are made for gasoline furnaces and have vent holes on top.

THE DENVER FIRE CLAY COMPANY.

Outside Measurements.					Inside Measurements.			Each
Letter	Width	Length	Height	Shape	Width	Side Height	Greatest Height	
AAA	2½ in.	6 in.	1½ in.	2				\$0.50
AA	3 in.	7 in.	2½ in.	2				.50
BB	3½ in.	6 in.	2½ in.	2				.50
CC	4½ in.	8 in.	3 in.	2				.60
C	4½ in.	8 in.	3 in.	2				.60
HH	5½ in.	7½ in.	4½ in.	3				.60
H	5½ in.	10½ in.	3½ in.	2				.75
F	6 in.	10 in.	4 in.	2	5½ in.		3½ in.	.75
FF	6 in.	10 in.	4 in.	2	5½ in.		3½ in.	.75
J	6 in.	12 in.	4 in.	2	4½ in.		3½ in.	.90
D	7 in.	10 in.	4½ in.	2	6 in.		3½ in.	.75
CD	7 in.	10½ in.	4½ in.	2	5½ in.		3½ in.	.75
DD	7 in.	12 in.	5 in.	4	6½ in.	3½ in.	4½ in.	1.00
G	7 in.	12 in.	4½ in.	4	6 in.	2½ in.	3½ in.	1.00
GG	7 in.	14 in.	5 in.	4	6 in.	2½ in.	3½ in.	1.20
KK	8 in.	12 in.	5 in.	4	6½ in.	2½ in.	4 in.	1.15
KKK	8 in.	13 in.	4½ in.	1	6½ in.		3½ in.	1.20
K	8 in.	14 in.	5 in.	4	7 in.	2½ in.	4 in.	1.25
WW	8½ in.	8½ in.	3½ in.	4	8 in.	2 in.	3 in.	1.00
HLL	8½ in.	14½ in.	5½ in.	4	7½ in.	2½ in.	4½ in.	1.50
LLL	9 in.	14½ in.	5½ in.	4	7½ in.	2½ in.	4 in.	1.50
L	9 in.	15 in.	5½ in.	2	7½ in.		4½ in.	1.50
LL	9 in.	15 in.	5½ in.	4	7½ in.	2½ in.	4½ in.	1.50
FHN	9 in.	16 in.	6 in.	4	7½ in.	3½ in.	4½ in.	1.50
I	10 in.	16 in.	6½ in.	2	8½ in.	2½ in.	5 in.	1.75
II	10 in.	16 in.	6½ in.	3	8½ in.	3½ in.	5½ in.	1.75
CII	10 in.	16½ in.	6½ in.	3	8½ in.	3½ in.	5½ in.	1.75
JJJ	10 in.	18 in.	6½ in.	2	8½ in.	2½ in.	5 in.	2.00
NNN	10 in.	19 in.	6½ in.	2	8½ in.	2½ in.	5 in.	2.15
MM	10 in.	20 in.	6½ in.	2	8½ in.	2½ in.	5 in.	2.25
JJ	10½ in.	18 in.	6½ in.	4	8½ in.	3½ in.	5 in.	2.00
N	10½ in.	19 in.	6½ in.	4	8½ in.	3½ in.	5 in.	2.15
M	10½ in.	20 in.	6½ in.	4	8½ in.	3½ in.	5 in.	2.25
LM	10½ in.	22 in.	6½ in.	4	8½ in.	3½ in.	5 in.	2.50
III	10½ in.	16½ in.	6½ in.	4	8½ in.	3½ in.	4½ in.	2.00
NN	10½ in.	19 in.	6½ in.	4	8½ in.	3½ in.	5 in.	2.15
RR	10½ in.	21 in.	6½ in.	4	8½ in.	3½ in.	5½ in.	2.25
BNN	10½ in.	19 in.	6½ in.	4	9 in.	3½ in.	5½ in.	2.25
O	11 in.	15 in.	7 in.	2	9½ in.	3 in.	5½ in.	2.00
OO	11 in.	16 in.	7 in.	2	9½ in.	3 in.	5½ in.	2.10
PP	11 in.	18 in.	7½ in.	2	9½ in.	3½ in.	6 in.	2.25
P	11 in.	18 in.	6½ in.	4	9½ in.	3½ in.	5½ in.	2.15
GET	11 in.	19 in.	7 in.	2	9½ in.		5½ in.	2.25
PPP	11 in.	20 in.	6½ in.	4	9½ in.	3½ in.	5½ in.	2.25

Outside Measurements.				Inside Measurements.			
Letter	Width	Length	Height	Shape	Width	Side Height	Greatest Height
R	11½ in.	19 in.	7 in.	2	9½ in.	2½ in.	5½ in.
QQQ	12½ in.	18 in.	7½ in.	3	10½ in.	3½ in.	6½ in.
QQ	12½ in.	19 in.	7½ in.	3	10½ in.	3½ in.	6½ in.
Q	12½ in.	20 in.	7½ in.	4	10½ in.	3½ in.	5½ in.
USQQ	12½ in.	21 in.	7½ in.	3	10½ in.	3½ in.	6½ in.
S	12½ in.	20 in.	7½ in.	3	10½ in.	3½ in.	6 in.
SS	12½ in.	21 in.	8½ in.	2	10½ in.	3½ in.	6½ in.
T	13 in.	21 in.	7½ in.	4	11½ in.	3 in.	5½ in.
B	14 in.	21½ in.	7½ in.	4	12½ in.	3½ in.	5½ in.
TT	13 in.	15 in.	6½ in.	4	11½ in.	3 in.	5½ in.
UUU	14 in.	18 in.	9½ in.	4	12½ in.	5½ in.	7½ in.
UU	14 in.	19 in.	7½ in.	4	11½ in.	3½ in.	5½ in.
U	14 in.	18 in.	7½ in.	4	11½ in.	3½ in.	5½ in.
UA	14 in.	18 in.	8½ in.	3	11½ in.	3½ in.	6½ in.
V	14½ in.	19 in.	8½ in.	3	13½ in.	5 in.	7 in.
VVV	14½ in.	19½ in.	6½ in.	4	13 in.	3½ in.	5½ in.
VV	14½ in.	19 in.	7½ in.	4	13½ in.	3½ in.	5½ in.
TXX	16 in.	24 in.	9½ in.	3	14½ in.	5 in.	7½ in.
W	16 in.	25 in.	15 in.	2	13½ in.	7½ in.	11½ in.
X	16½ in.	25 in.	7½ in.	4	14½ in.	4 in.	6½ in.
XX	16½ in.	22 in.	8½ in.	3	14½ in.	4½ in.	6½ in.
YYY	17 in.	19 in.	7½ in.	4	15½ in.	3½ in.	5½ in.
YY	17 in.	21 in.	8½ in.	4	15½ in.	4½ in.	6½ in.
TYY	20 in.	37 in.	10½ in.	4	For Roasting		
Z	30 in.	54 in.	12 in.	4	" "		
							Each
							\$2.40
							2.50
							2.50
							2.50
							2.50
							2.50
							2.75
							2.75
							2.75
							2.50
							2.75
							2.75
							2.75
							2.75
							3.00
							3.00
							3.50
							6.00
							4.00
							3.50
							3.25
							3.50
							10.00
							20.00

SPECIAL MUFFLES FOR THE CASE GASOLINE FURNACES (Patented).

GE	6 in.	6½ in.	4½ in.	4	5 in.	3½ in.	3½ in.	\$0.50
GF	6 in.	10 in.	4½ in.	4	5½ in.	3½ in.	3½ in.	.75
GK	8 in.	12 in.	5½ in.	4	7½ in.	3½ in.	4½ in.	1.15
GI	10 in.	16 in.	5½ in.	4	9 in.	3½ in.	4½ in.	1.75
GU	14 in.	18 in.	6½ in.	4	12½ in.	4 in.	5 in.	2.75
GC	6 in.	8 in.	3½ in.	Spec.	5½ in.	2½ in.	2½ in.	.75
GD	7 in.	10 in.	4½ in.	"	6 in.	3½ in.	3½ in.	.75

No.

1192 Shelf Muffles:

Outside Dimensions.					
Letter	Width	Length	Height	Shape	Each
LA	9 in.	15 in.	6 in.	1 One Shelf	\$2.25
QA	12 in.	19 in.	7½ in.	1 " "	3.00
TA	13 in.	21 in.	8½ in.	4 " "	3.50
VA	14½ in.	19 in.	9½ in.	1 " "	4.00



1193-94



1195



1196

No.

1193

Muffle Arches A.

Size for

LL

I

O

QQQ

T

U

W Muffles

Each

\$1.10**1.20****1.25****1.30****1.40****1.50****1.65**

Any other size of muffle arch made to order at proportionate prices.

1194

Muffle Arch Reducer B. To diminish the opening to admit 20-gramme crucible and to prevent cold air draft from striking the muffle when in use.

\$0.40

1195

Muffle Arches, for 2-muffle Assay Furnace.

Set of 2 for

LL

I

O

QQQ

T

U

W Muffles.

Price

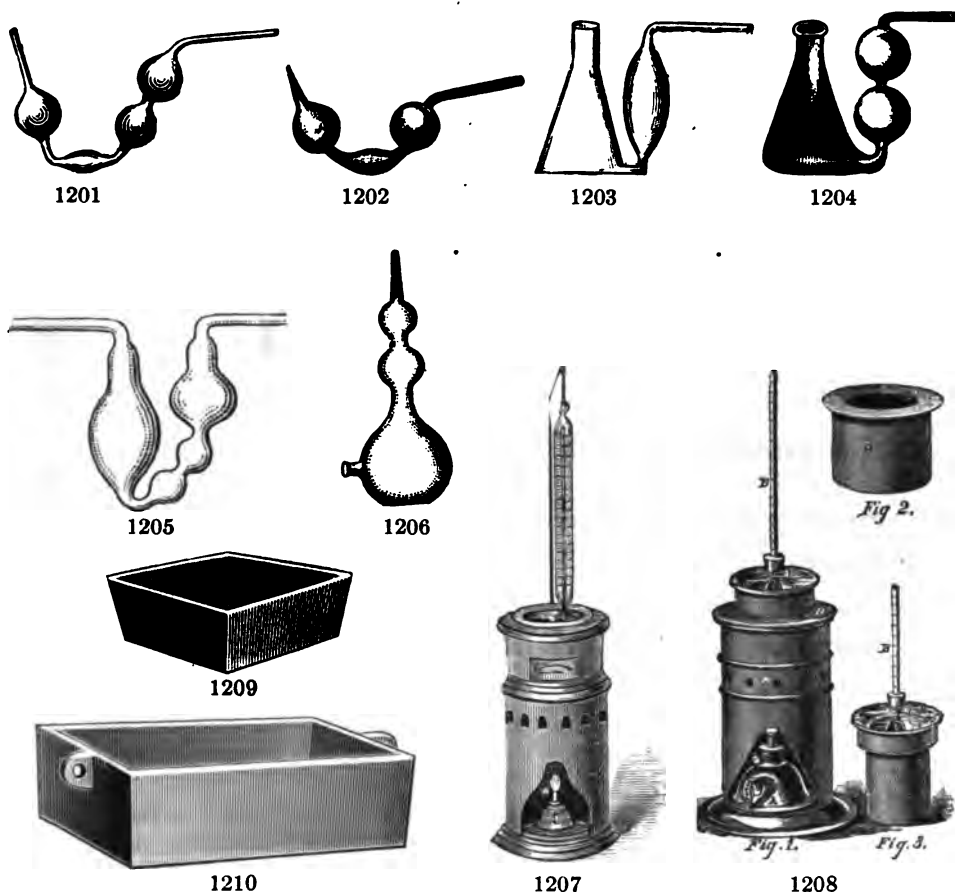
\$2.20**2.40****2.50****2.60****2.80****3.00****3.25 per set.**

1195a

Muffle Arch Front, for 3-muffle furnace, taking P or Q muffle**\$2.50**

1196

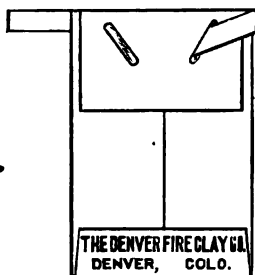
Muffle Scrapers, 36 in. long.**.50**



No.		
1201	Nitrogen Bulbs, Arndt's, with 4 bulbs.	\$0.35
1202	Nitrogen Bulbs, Wills & Varentrapp's, with 3 bulbs. . . . .	.35
1203	Nitrogen Bulbs, Volhard's, right angle bulb. . . . .	.50
1204	Nitrogen Bulbs, Fresenius', for direct titration . . . . .	.50
1205	Nitrogen Bulbs, Troilius', with 4 bulbs. . . . .	.50
1206	Nitrogen Bulbs, Simpson's. . . . .	.40
1207	Oil Tester, for open fire test, to ascertain at what temperature the coal oil will flash or explode. Complete with standard thermometer.	7.50
1208	Oil Tester, Elliot's. Standard of N. Y. State, Iowa, New Jersey, Michigan, and in general use everywhere, with correct thermometer; arranged for oil lamp or Bunsen burner.	8.00
	Ore Sample Bags, see No. 1215.	
1209	Pans, of cast iron, for drying and roasting ores, size 6x6x2½ in. deep. . . . .	.75
1210	Pans, of cast iron, with 2 handles, for drying slimes or precipitates, size 18x12x6 inches	5.00
	Paper, Litmus and Turmeric; see Test Paper, No. 1482.	
1211	Paper, Black glazed, for sampling, etc. In sheets 10x12 in. Per 100 sheets . . . . .	.75
	Per 1000 sheets	6.00
1212	Paper, Manila, medium, for mixing assay samples, best quality, in sheets 8½x12 in. . . . .	.20
	Per 100 sheets	1.75
	Per 1000 sheets	1.75



1215a



1216



1222



1223

No.

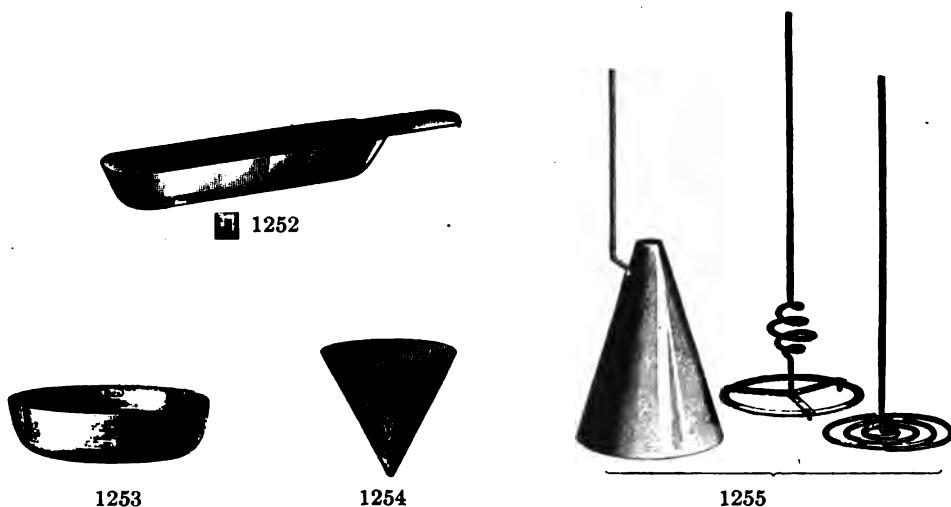
1214	Paper, Parchment, medium, for dialysing and capping; in sheets 25x39 in., 10 sheets to lb	Per lb.	\$0.60				
1215	Paper Bags, Manila, for ore samples, size 4½x7 in	Price, per 1000	3.50				
1215a	Paper Blocks, S. & S. for absorbing difficult combustible liquids in calorimetric determinations.	Price, per 100	1.75				
1216	Paper Mailing Envelope, for ore samples.						
	Capacity	1	2	4	6	8 oz.	
	Size	3x5	3½x6	4x7	4½x8	5x9 in.	
	Per 100	\$0.60	0.80	1.00	1.20	1.50	
1217	Paper Ore Bag, Excelsior, for mailing, 3½x5 in. when closed. Is folded and gummed in such a way that when sealed, it is absolutely tight. Especially adapted for mailing finely ground ore samples, or powdered substances	Per 1000	3.50				
1221	Pencils, for writing on glass, china, metal, etc.; blue, red and yellow. Each Doz.		.15 1.50				
1221a	Pencils, Litmus, see Fig. 1136	Each	0.25				
1222	Percolators, conical form, flint glass.						
	Capacity	pt.	qt.	½	1	2	3 gal.
	Each	\$0.30	.40	.60	.80	2.00	3.25
1223	Percolators, Oldberg's, narrow form, flint glass.						
	Capacity	½ pt.	pt.	qt.	½	1	2 gal
	Each	\$0.30	.35	.45	.70	1.50	2.50
	Picks, prospecting, see Hammers, No. 1050.						
1224	Pipes, pure block tin, ¼, ⅜, ½ in. inside dia	Per lb.	.60				
1225	Pipes, lead, ¼, ⅜, ½ in. inside dia	Per lb.	.25				
1226	Plates, porous, bisque; for drying crystals, etc., dia. 10 in	Each	.25				

1231 1232 1233 1234 1235 1236 1238 1240

1231	Pipettes, small; with rubber bulb, straight end.....	Each	\$0.05	; Doz.	\$0.40
1232	Pipettes, small; with rubber bulb, bent end.....	Each	.05	; Doz.	.40
1233	Pipettes, with bulb, not fixed.				

1238a	Pipettes, Assay Ton, 29.166 cc.....	Each	.60
1239	Pipettes, Sucrose, 52.096 cc.....	Each	1.50
1240	Pipette Rests, of porcelain, fluted.....	Each	.65

PLATINUM.

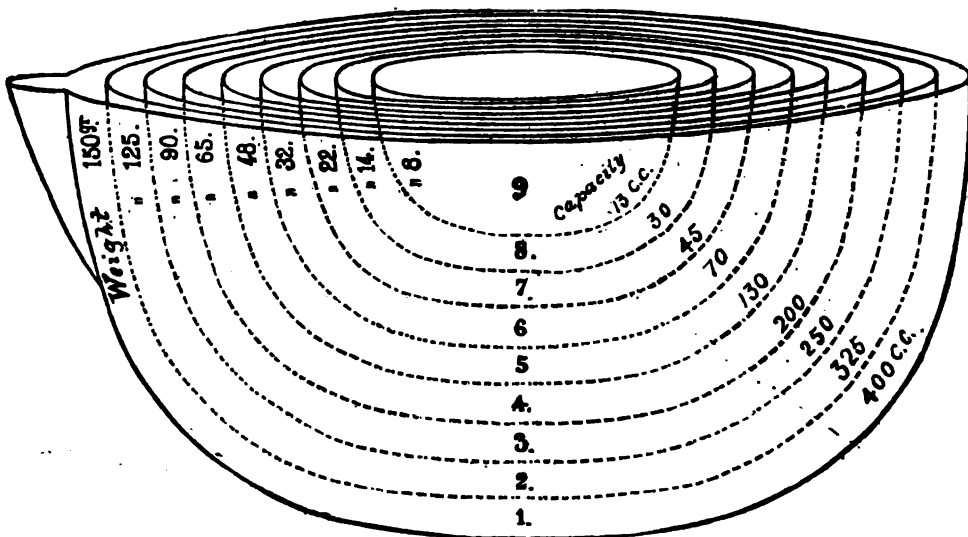


Our platinum ware is warranted pure and of superior make and shape. All crucibles and dishes are hammered. Special apparatus made to order. All weights and prices given in this list are approximate only and the latter is governed by the market price of platinum.

Old or Scrap Platinum bought at market price.

No.					
1251	Platinum Boats; for combustion in organic analysis, plain form.				
	Size	2	2½	3 in.	
	Weight	5	6½	8½ grms.	Gramme \$0.80
1252	Platinum Boats, with handles.				
	Size	2½	3	3½ in.	
	Weight	6	7½	9 grms.	Gramme .80
1253	Platinum Capsules; flat bottom, corners rounded.				
	No.	0	1	2	
	Dia.	1½	1½	2 in.	
	Height	½	1	1½ in.	
	Weight	5	10	25 grms	Gramme .80
1254	Platinum Cones. For filtering with vacuum pump; made solid in one piece.				
	Dia. at top	¾	1	1½ 1½ 2 in.	
	Weight	2	3	4 7 10 grms. . . .	Gramme 1.00
1255	Platinum Cone and Spiral, according to Fresenius, for the quantitative determination of copper, etc., by galvanic current. According to weight (15 to 25 grammes each)				
					Gramme .80

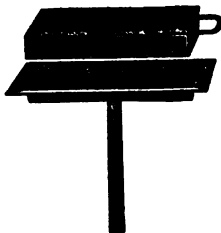
Support for same, see No. 1470.



1260



1262



1264

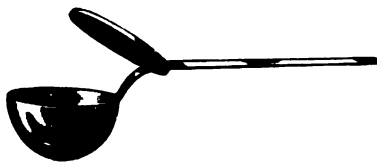


1267

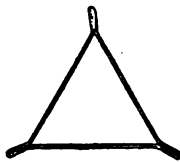


1268

No.				
1262	Platinum Dishes; for milk analysis, flat bottom			Gramme \$0.80
	No.	1	2	
	Dia.	50	56 mm.	
	Height	19	25 mm.	
	Weight	14	17 grms.	
1263	Platinum Dishes; for sugar analysis, shallow with rounded bottom			Gramme .80
1264	Platinum Filter Boats and Holders, as used in iron and steel analysis; weight of boat about 15 grammes; weight of boat holder about 23 grammes			Gramme .90
1265	Platinum Foil.			
	Size	Light	Medium	Heavy
	Thickness	1-1000	1-500	1-250 in.
	Per grm.	\$0.78	.76	.74
1266	Platinum Gauze, fine			Gramme 1.00
1267	Platinum Spatulas, length 3 and 4 inches; weight 4 to 8 grammes			Gramme .80
1268	Platinum Sponges, wired for hydrogen ignition			Each .30
1269	Platinum Spoons, without lid			Gramme 1.00
	No.	1	2	3
	Dia.	10	13	16 mm.
	Weight	1.5	2.4	3.0 grms.



1270



1271



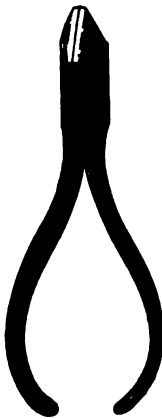
1281



1282



1283



1284

No.						
1270	Platinum Spoons, with lid, for blow pipe analysis.	Gramme				\$1.00
	No.	1	2	3	4	
	Dia.	10	13	16	19 mm.	
	Weight	2.5	3.0	4.0	5.0 grms.	
1271	Platinum Triangles, made of Nos. 16 and 15 wire, very substantial.	Gramme				.80
	For Crucibles	10	15	20	25 cc.	
	Weight about	8	10	12	14 grms.	
	For Crucibles	30	40	50 cc.		
	Weight about	16	18	20 grms.		
1272	Platinum Tips, for blow pipes, of correct shape	Each				.80
1273	Platinum Wire	Gramme				.75
	No.	12	14	16	18	20 24
	Weight per in.	1.85	1.30	.75	.45	.28 .135 grms.
	No.	26	27	30	34	35 36
	Weight per ft.	.8	.65	.30	.132	.101 .072 grms.
1274	Platinum Apparatus, of any special kind or shape furnished.	Prices given upon application.				
1281	Pliers, "Button," straight, for holding buttons while brushing; 5 in.					.50
1282	Pliers, "Button," turned-down nose, for holding buttons while brushing; 5 in.					.50
1283	Pliers, flat nose, steel faced	5 in. \$0.30; 6 in.				.40
1283a	Pliers, round nose, steel faced	5 in. .30; 6 in.				.40
1284	Pliers, diagonal cutting, nippers, steel.	5 in. .75; 6 in.				.85



1288



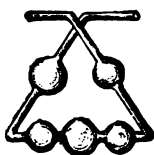
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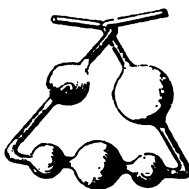
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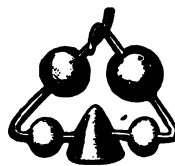
1290



1291



1292

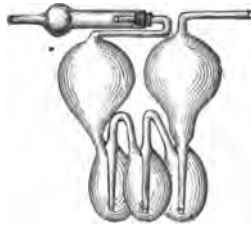


1293

No.			
1285	Pliers, end cutting, nippers, steel.....	5 in. \$0.75; 6 in.	\$0.85
1286	Pliers, side cutting, steel.....	5 in. .75; 6 in.	.85
1287	Pliers, Gas, 8 inches	Each	.50
1288	Pliers, "Seven-in-One" Combination Tool; can be used as pliers, pipe grip, wire cutter, screw driver, packing hook, tube glass cutter and plate glass cutter. Price.....		1.50
1290	Pokers, of iron, for furnaces	Each	.25
1291	Potash Bulbs, Liebig's, with 5 bulbs .....		.50
1292	Potash Bulbs, Liebig-Dittmar's75
1293	Potash Bulbs, Liebig-Kyll's.....		.75



1294



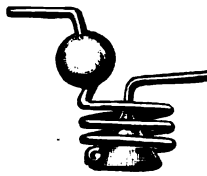
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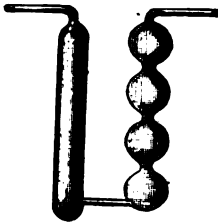
1300



1297



1298



1298a

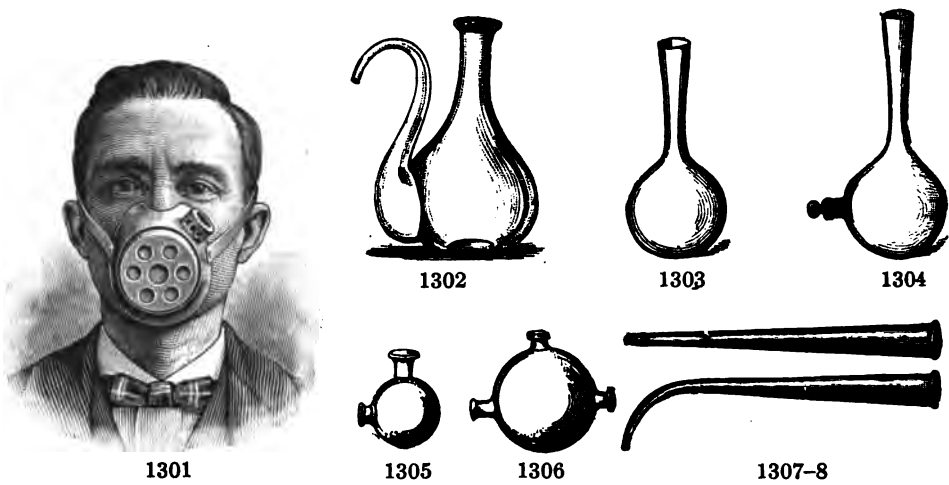


1299

No.		
1294	Potash Bulbs, Geissler's, plain	\$0.85
1295	Potash Bulbs, Geissler's, with CaCl ₂ tube attached.....	1.00
1296	Potash Bulbs, Geissler's, with CaCl ₂ tube attached by ground joint	1.50
1297	Potash Bulbs, Winkler's, spiral, medium size	1.25
1298	Potash Bulbs, Winkler-Kyll's	1.50
1298a	Potash Bulbs, Mitcherlich's.....	.50
1299	Pulverizers or Mills, for grinding grain, soft ores, bones, etc.	
	Size No. 2 3 5	
	Height 12½ 15 17 in.	
	Each \$4.00 6.00 9.00	

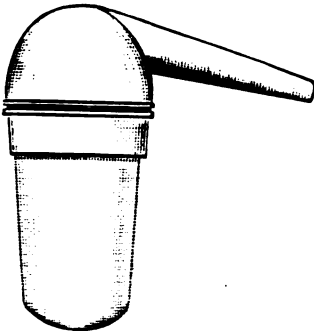
1300 Pyrometer, Gauntlett System, reading up to 1500° F.
5-inch dial \$26.00; 7-inch dial 30.00

HIGH TEMPERATURE PYROMETERS, SUCH AS LE CHATELIER'S,
WANNER'S AND OTHERS QUOTED ON APPLICATION.



No.					
1301	Respirators, Cover's patent.	The most complete device ever offered for protecting the lungs and throat from dust, poisonous gases and all other impurities.			\$2.00
1302	Receivers, Florentine.	For collecting distillates.			
	Capacity	1 pt.	1 qt.	$\frac{1}{2}$ gal.	
	Each	\$0.50	.60	1.00	
1303	Receivers for retorts.	Glass, plain.			
	Capacity	4	8	16	32 oz.
	Each	\$0.15	.25	.30	.35
1304	Receivers, for retorts.	Glass, with tubulature and glass stopper.			
	Capacity	4	8	16	32 oz.
	Each	\$0.30	.40	.50	.60
1305	Receivers with two tubulations.				
	Capacity	8	16	32 oz.	
	Each	\$0.40	.50	.60	
1306	Receivers with three tubulations.				
	Capacity	8	16	32 oz.	
	Each	\$0.50	.60	.80	
1307	Retort Adapters; straight.				
	Wide End	$\frac{1}{2}$	1	$1\frac{1}{2}$	2 in. dia.
	Each	\$0.15	.20	.30	.40
1308	Retort Adapters, bent.				
	Wide End	$\frac{1}{2}$	1	$1\frac{1}{2}$	2 in. dia.
	Each	\$0.15	.20	.30	.40

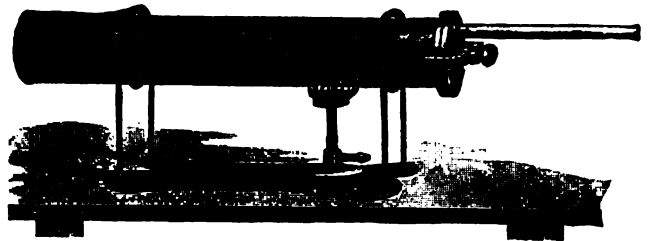
RETORTS.



No.										
1311	Retorts, Bohemian glass, plain.	Capacity	2	4	8	16	32 oz.	$\frac{1}{2}$	1 gal.	
		Each	\$0.12	.15	.22	.28	.35	.50	.75	
1312	Retorts, Bohemian glass, with tubulature and glass stopper.	Capacity	2	4	8	16	32 oz.	$\frac{1}{2}$	1	2 gal.
		Each	\$0.20	.25	.35	.45	.60	.90	1.25	2.50
1313	Retorts with ground in receiver, glass stoppered.	Capacity	4		8		16 oz.			
		Each	\$0.75		1.00		1.50			
1314	Retorts, porcelain, with tubulature and stopper.	Capacity	4		8		16 oz.			
		Each	\$1.25		1.50		1.75			
1314a	Retorts, Royal Berlin porcelain, with detachable hood, 5-gallon capacity.....	Each								\$40.00
1315	Retorts, copper. For generating oxygen; with iron clamp and brass delivery tube.	Capacity	$\frac{1}{2}$ pt.		1 pt.		1 qt.	$\frac{1}{2}$ gal.		
		Each	\$2.00		2.25		2.75	3.50		



1315a



1315b



1316



1316a



1317



1321

No.

1315a Retorts, iron. For generating oxygen; dimensions 11 inches deep, 7 inches diameter. Cover is turned and fitted with asbestos packing.
Price \$5.00

1315b Retorts, of iron, cylindrical form, for gradually generating oxygen, $3\frac{1}{2} \times 22$ inches.
Price..... 3.00

Folding support for same. Price..... 1.00

1316 Retorts, iron. For mercury distillation, etc.; movable cover fastened by screw clamp and milled smooth, making it absolutely tight fitting.

Capacity $\frac{1}{2}$ pt. 1 pt. 1 qt. $\frac{1}{2}$ 1 2 gal.

Each \$2.25 2.50 2.75 3.50 5.00 6.00

1316a Retorts, Nevada or oval top, complete with iron delivery pipe.

Capacity 3 4 5 pts.

Holds Quicksilver 38 50 63 lbs.

Weight 18 25 30 lbs.

Price \$7.00 8.00 9.00

Note:—For use with the above retorts we can furnish our furnaces, Catalogue No. 980, fitted with necessary Retort Plate to hold retort.

1317 Rings. Of porcelain, concentric, for water baths, etc.

In sets of 5 6 7

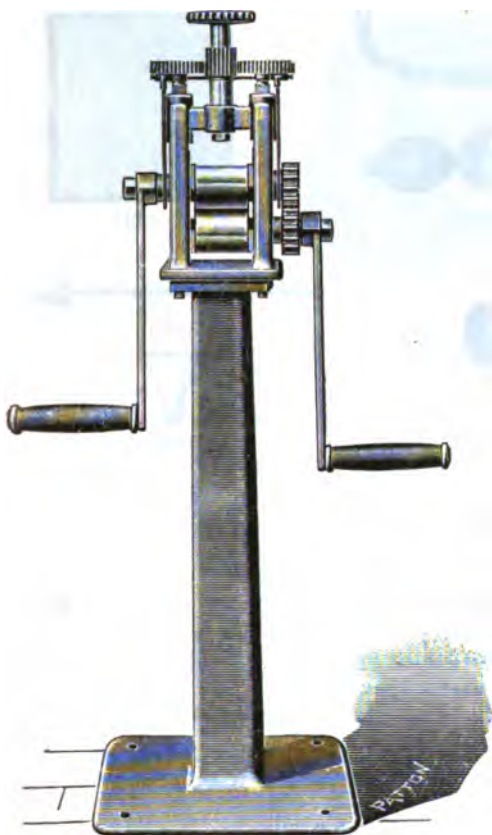
Dia. of largest 16 20 25 cm.

Set \$1.00 1.50 2.00

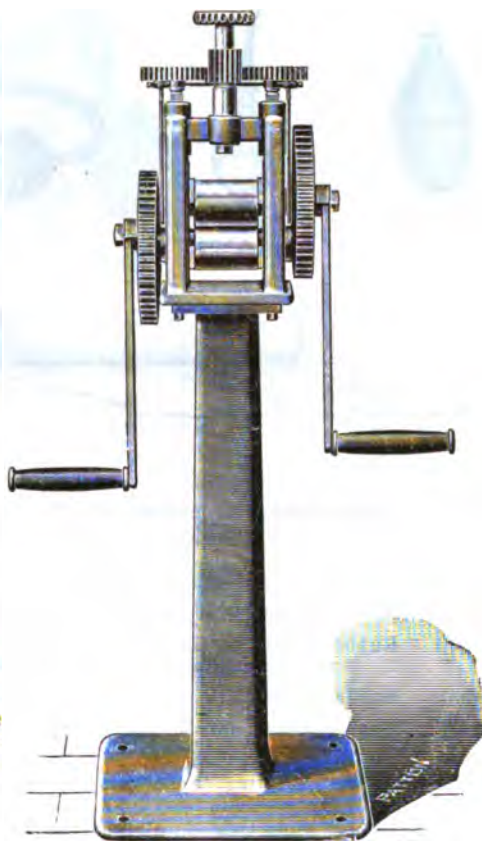
1321 ROASTING DISHES; OF CLAY, OUR OWN MANUFACTURE.

Dia. $2\frac{1}{2}$ 3 4 5 6 in.

Doz. \$0.70 .80 .90 1.10 1.75



1322



1323

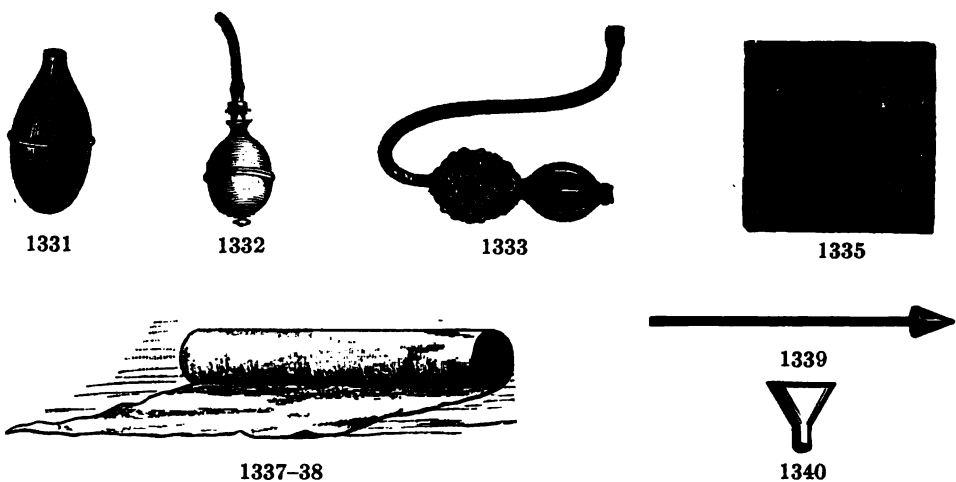
No. 1322 Rolling Mills; for metals. Improved single geared hand mills, with flat rolls.

No.	2	3	4
Size of rolls	2x1½	3x2½	4x2½ in.
Weight	80	145	190 lbs.
Each	\$30.00	50.00	75.00

1323 Rolling Mills, for metals. Improved double geared hand mills, with flat rolls.

No.	3	4
Size of rolls	3x2½	4x2½ in.
Weight	180	225 lbs.
Each	\$75.00	100.00

Note.—The above hand rolling mills for assayers are mounted upon cast iron column. The rolls are evenly tempered, truly ground, finished with a high polish, and are fully warranted. The gears are all cut, cranks of steel, boxes of bronze, and the pressure screws of steel, with the points tempered.

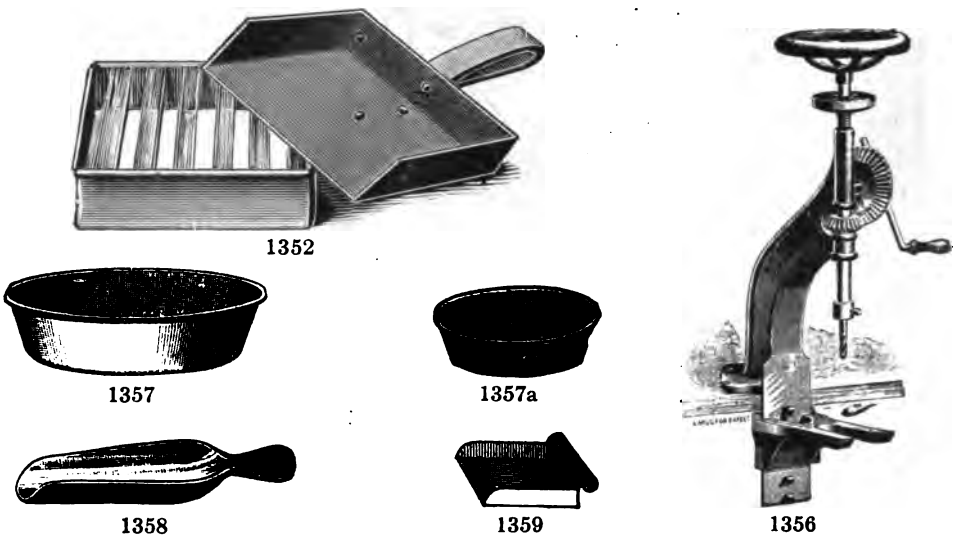


No.	Rubber Bulbs, for pipettes, etc.					
1331	Capacity	2	5	25	50 cc.	
	Each	\$0.05	.05	.20	.25	
1332	Rubber Bulbs, with valve for wash bottles, etc.	Capacity 50 cc.				\$0.40
1333	Rubber Bulbs, or Hand Bellows, with valve; two bulbs for use with blow pipes, etc., giving a continuous blast					1.00
1333a	Rubber Bulb, with flexible tube, for Orsat's apparatus	Each				.40
1333b	Rubber Bulb, double acting, for Orsat's apparatus, to take gas samples "Rubber Aspirator"					2.00
1334	Rubber Sheetting, pure gum, unvulcanized, in rolls, 3 feet wide. Light, medium and heavy					3.50
1335	Rubber Pads. Of pure gum 1/4 in. thick, for dressing amalgamating copper plates.	Size	4x6	6x6 in.		
	Each	\$0.75	1.00			
1336	Rubber Stoppers. These are made of pure Para Gum and not having any adulteration, they will float on water				Oz. \$0.25; lb.	3.50
	No.	Large End.	Small End.	No. to Lb.		
	00	14 mm.	10 mm.	180		
	0	15 mm.	11 mm.	120		
	1	18 mm.	14 mm.	90		
	2	20 mm.	16 mm.	80		
	3	23 mm.	19 mm.	60		
	4	25 mm.	20 mm.	50		
	5	27 mm.	23 mm.	40		
	6	32 mm.	26 mm.	30		
	7	36 mm.	30 mm.	22		
	8	40 mm.	34 mm.	18		
	9	44 mm.	36 mm.	15		
	10	50 mm.	41 mm.	11		
	11	55 mm.	50 mm.	9		
	12	62 mm.	54 mm.	6		
	13	68 mm.	57 mm.	5		
1337	Rubber Sheetting, vulcanized on muslin. White, for mixing ore samples; rolls 36 in. wide				Yard	.75
1338	Rubber Sheetting. Same as above, black				Yard	.75
1339	Rubber Stirrers, point a flexible cone. For washing down Ba(OH) ₂ , etc., from walls of beakers, etc.					.25
1340	Rubber Tips, s. c. "Policemen." To be attached to glass rod, for scraping precipitates from walls of beakers.				Doz.	.50



1351

No.								
1341	Rubber Tubing, black, pure gum, light wall.							
	Inside dia.	$\frac{1}{4}$	5-32	3-16	$\frac{1}{2}$	5-16	$\frac{3}{4}$	$\frac{1}{2}$ in.
	Foot	\$0.05	.07	.10	.12	.14	.20	.30
1342	Rubber Tubing, black, pure gum, heavy wall.							
	Inside dia.	$\frac{1}{4}$	3-16	$\frac{1}{2}$	5-16	$\frac{3}{4}$	$\frac{1}{2}$ in.	
	Foot	\$0.06	.12	.15	.20	.30	.40	
1343	Rubber Tubing, red or antimony. Best quality.							
	Inside dia.	$\frac{1}{4}$	3-16	$\frac{1}{2}$	5-16 in.			
	Foot	\$0.05	.10	.12	.15			
1344	Rubber Tubing, band, pure gum, light walls. For Gooch crucibles.							
	Width, flat	1	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$ in.			
	Foot	\$0.15	.20	.25	.30			
1345	Rubber Tubing, white, heavy wall. Best quality, hand-made, for conducting gas, etc.; in 12-foot lengths.							
	Inside dia.	$\frac{1}{4}$	3-16	$\frac{1}{2}$	5-16	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{2}$ in.
	Foot	\$0.06	.10	.12	.15	.20	.25	.30
1345a	Rubber Tubing, white, light wall, hand-made. For connections.							
	Inside dia.	$\frac{1}{4}$	3-16	$\frac{1}{2}$	5-16	$\frac{3}{4}$	$\frac{1}{2}$ in.	
	Foot	\$0.05	.07	.10	.12	.15	.20	
1346	Rubber Tubing, white, cloth insertion, heavy wall.							
	Inside dia.	$\frac{1}{4}$	$\frac{3}{4}$ in.					
	Foot	\$0.15	.20					
1347	Rubber Tubing, extra heavy walls. For vacuum pumps, etc.							
	Inside dia.	3-16	$\frac{1}{2}$ in.					
	Foot	\$0.15	.25					
1348	Rules, of boxwood, 30 cm. and 12 inches.....							\$0.20
1349	Rules, of boxwood, 60 cm. and 24 inches, four-fold .....							.40
1350	Rules, Meter Sticks, 1 meter on one side in millimeters, and 39 inches in one-eighths on the other.....							.40
1351	Samplers, "Jones Ore Sampler." Its construction facilitates quick and even sampling. It consists of hopper set in 4-legged support, scoop, and 4 sampling pans and brush. All parts can be easily cleaned. It is made in 3 sizes.							
	Size	4	6	10 in.				
	Trays	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$ in.				
	Each	\$7.50	10.00	15.00				
	Extra Brushes for same.....	Each, \$0.30; Doz.						3.00



No.				
1352	Sampler and Scoop.	Trays $\frac{1}{2}$ in. wide.		
	Size	6x6	9x9	12x12 in.
	Each	\$1.25	1.75	2.25
1353	Samplers only	.90	1.40	1.75
1354	Scoops only	.40	.45	.65
1355	Sampling Bags.	Of duck, for ore, as used by mills, etc.		
	Size	6x10	6x14	9x15
	Doz.	\$0.50	.75	1.25
				10x21 in.
				1.50
Sampling Bags of Paper; see No. 1215.				
1356	Sampling Drill,	for drilling small samples of metals from bullion for assaying.		
	It is 26 in. high and weighs 29 lbs.; neatly japanned.....			\$10.00
1357	Sampling Pans.	For ore samples; of seamless tin.		
	Dia.	5	6	7
				8
				10 in.
	Doz.	\$0.35	.40	.50
				.70
				.90
1357a	Sampling Pans,	for ore samples, of enameled steel.		
	Dia.	5 $\frac{1}{4}$	6	6 $\frac{1}{4}$
				7 $\frac{1}{4}$
				10 in.
	Each	\$0.20	.25	.30
	Doz.	2.00	2.50	3.00
				3.50
				4.50
1358	Sampling and Mixing Horn.	Bowl 5x1 $\frac{1}{2}$ in. at largest dia.....		
				Each .30
				Doz. 3.00
1359	Sampling and Amalgamating Scoop.	Russia iron, 5x4 $\frac{1}{2}$ in.....		
				.40



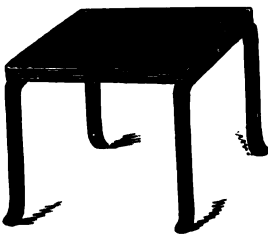
1360



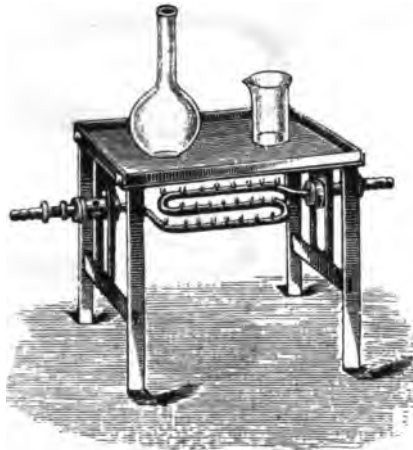
1361



1362



1363



1364

No.

1360 Sampling Scoops. Horn.

No.	1	2	3
Bowl	$3\frac{1}{2} \times 2\frac{1}{2}$	$3\frac{1}{2} \times 2\frac{1}{2}$	$4\frac{1}{2} \times 3\frac{1}{2}$
Doz.	\$1.00	1.50	2.00

1361 Sand Baths. Sheet iron, shallow.

Dia.	3	4	5	6	8	10 in.
Each	\$0.10	.12	.15	.20	.30	.50

1362 Sand Baths. Sheet iron, hemispherical.

Dia.	4	6	8	10 in.
Each	\$0.20	.30	.50	.70

1363 Sand Baths, or Hot Plate, an iron tray on 4 legs.

Size	6x8	8x10	10x12 in.
Each	\$2.00	2.25	2.50

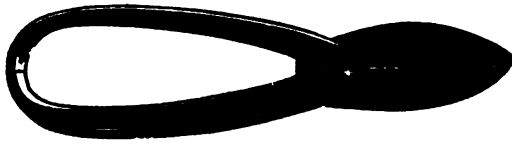
1364 Sand Baths, Ruedorff's. Of wrought iron, with adjustable burner, 8x10 in. \$7.00

SCORIFIERS.

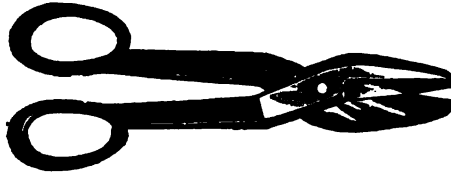
OUR OWN MANUFACTURE—GUARANTEED.



1365



1368



1370

No.

1365 Scorifiers, D. F. C. Co. Our Own Manufacture, Guaranteed.

Dia.	1½	2	2½	2½	2½	3	3½	4 in.
Per 1000	\$12.00	12.00	12.00	13.00	16.00	20.00	25.00	30.00

1366 Scorifiers, D. F. C. Co. Bartlett style, shallow bowl.

Dia.	2½	2½	3 in.
Per 1000	\$12.00	13.00	20.00

1367 Scissors, Pocket. Forged steel.

Length	4	5 in.
Each	\$0.40	.50

1368 Shears, Brown's. Polished steel.

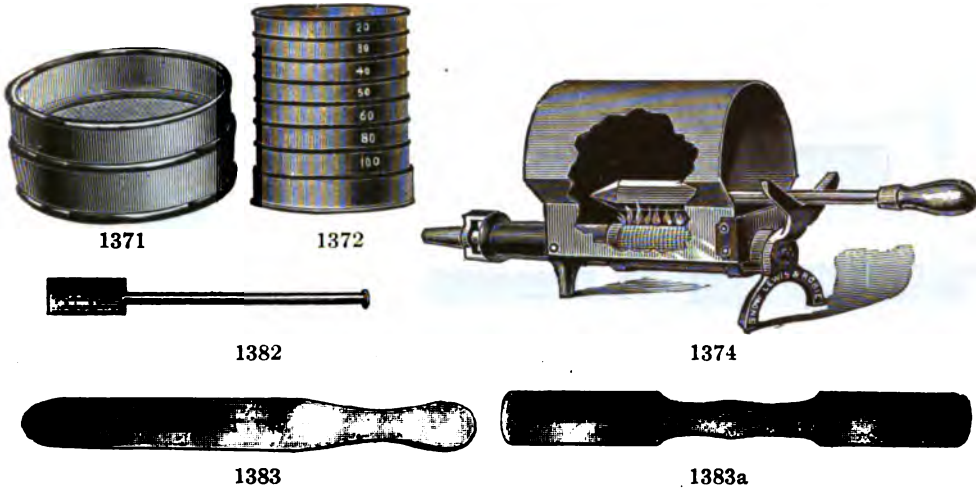
Length	6	7	8	10 in.
Each	\$1.00	1.20	1.40	1.60

1369 Shears, Hand. For cutting paper, etc.

Length	10	11	12 in.
Each	\$0.80	1.00	1.20

1370 Shears, Hand. For cutting metal. "Tinnors' Snips."

Length of cut	2½	3	3½	4 in.
Each	\$1.50	2.00	2.50	3.00



No.

1371 Sieves, Brass Cloth, tin frames, with pan bottom.

Mesh	10	20	30	40	50	60	70
8 in. Dia.—Each	\$0.90	.90	1.00	1.00	1.00	1.25	1.25
10 in. Dia.—Each	1.25	1.25	1.35	1.50	1.50	1.75	1.75
12 in. Dia.—Each	1.50	1.50	1.50	1.75	1.75	2.00	2.00
Mesh	80	90	100	120	150	200	
8 in. Dia.—Each	\$1.25	1.50	1.50	2.00	2.75	4.00	
10 in. Dia.—Each	1.75	2.00	2.00	2.50	3.50	6.00	
12 in. Dia.—Each	2.00	2.25	2.25	3.00	5.00	7.50	

1372 Sieves, as above, 8 in. diameter, in nests of 7, viz.: 20, 30, 40, 50, 60, 80 and 100 mesh \$7.00

1373 Sieve Covers, for above.

For	8	10	12 in. Sieves.
Each	\$0.40	.50	.60

Note:—We also nest above to suit purchaser. Sieves of any other diameter made to order and charged at lowest figures.

1374 Soldering Iron Heaters, for gas. 1.50

1375 Soldering Coppers, with handles.

Weight	1	1½	1½	2 lbs.
Each	\$0.50	.65	.80	1.00

1376 Sodium Spoons, with handles. Each .40

1381 Spatulas, bone. Best quality; length 5 in.15

1382 Spatulas, glass. With ground blade; length 6 in20

1383 Spatulas, horn. Best quality, very elastic.

Length	6	7	8 in.
Each	\$0.12	.15	.20

1383a Spatulas, horn. Double ends, superior quality.

Length	4	5	6	7	8	10 in.
Each	\$0.08	.10	.12	.15	.20	.35



1385



1389



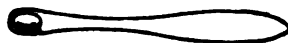
1386



1390



1387



1392



1394

No. 1388

1384	Spatulas, nickel, solid.	Spatula on both ends.			
	Length	5	6	7	8 in.
	Each	\$0.40	.50	.60	.80

1385	Spatulas, porcelain.	Spatula on both ends.			
	Length	4½	5½	7	8 in.
	Each	\$0.20	.30	.35	.40

1386	Spatulas, porcelain.	Stout, with knob.		
	Length	11	14	17 in.
	Each	\$0.60	.80	1.00

Spatulas, platinum. See Platinum Spatulas, No. 1267.

1387	Spatulas, steel, with cocoa wooden handle.	For mixing and dividing.						
	Blade	3	4	5	6	7	8	10 12 in.
	Each	\$0.20	.25	.30	.35	.45	.60	.90 1.50

1388	Spatulas, steel, "artists' palette knives."	Wooden handle.		
	Blade	3	4	5 in.
	Each	\$0.30	.40	.50

1389	Spatulas, steel, nickel-plated.	Steel handle.		
	Length	4	5	6 in.
	Each	\$0.50	.55	.60

1390	Spatulas, steel, solid, with knob on one end or with double ends.					
	Length	6	8	10	12	14 16 in.
	Each	\$0.20	.25	.35	.45	.60 .75

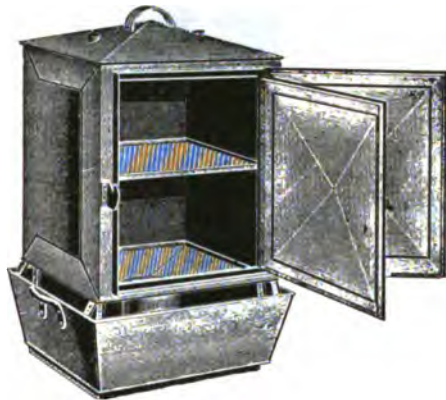
1391	Sodium Spoons.	Metal screen bowl								\$0.40
1392	Spoons, Ivory.	For blow pipe work								.25
1393	Spoons, Bone.	Best quality, 6 inches								.25
1394	Spoons, Horn.	Best quality, with spatula end.								
		Length	4	5	6	8	10 in.			
		Each	\$0.10	.15	.20	.30	.40			



1394a



1394b



1394b No. 136

No.

1394a Sterilizers, Hot Air Ovens, for sterilizing in dry heat, made of Russia iron, with double walls and connecting openings between the oven and the door, to secure a perfectly even circulation.

No. 1040.	9	inches	high,	12	inches	wide,	9	inches	deep.	\$15.00
" 1045.	9	"	"	15	"	"	9	"	"	16.00
" 1050.	9	"	"	18	"	"	9	"	"	17.00
" 1055.	12	"	"	24	"	"	12	"	"	27.00
" 1060.	12	"	"	9	"	"	9	"	"	18.00

Larger sizes quoted upon application.

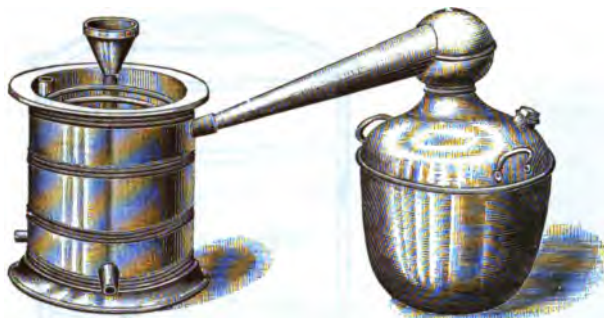
1394b Sterilizers, Arnold's, for Steam, maintaining an unvarying temperature of 100° c. in all parts of the sterilizing chamber, without needing any care or attention.

Sizes of sterilizing chambers and prices.

No. 23.	10½	inches	high,	9½	inches	dia.,	heavy	tin,	copper	bottom	3.50
" 25.	12½	"	"	11½	"	"	"	"	"	"	4.75
" 33.	10½	"	"	9½	"	"	"	"	all	copper	11.00
" 35.	12½	"	"	11½	"	"	"	"	"	"	14.00

" 136. Square, Board of Health Pattern, of copper with double walls, and double doors, 16 inches high, 12 inches wide, 12 inches deep.. 37.50

Other forms and sizes quoted upon application.



1395



1396 No. 3



1396 No. 4.



1397



1398

No.

1395 Stills, or Distilling Apparatus, for water, spirits, etc. A tin-lined copper re-tort, and zinc cooler, with block-tin worm. All stills being tubulated and of superior make.

Capacity	$\frac{1}{2}$	1	2	3	5 gal.
Complete	\$8.00	10.00	12.00	16.00	20.00
Separate parts:					
Still	\$5.00	6.50	8.00	10.00	12.50
Condenser	3.00	3.50	4.00	6.00	7.50

1396 Stills, "Jewell" Automatic Water Stills. Capacity $\frac{1}{2}$ gal.; complete with tin-lined condensing tube and Bunsen burner.

No. 3, made of iron.	\$15.00
No. 4, made of tin-lined copper, nickel-plated	24.00

Large Jewell "Steam" Stills quoted upon application.

1397 Stills, "Domestic" Automatic Water Still.

(a) Capacity 13 gals. in 24 hours	15.00
(b) Capacity 32 gals. in 24 hours	25.00
A consumes 6 cubic feet, B 14 cubic feet gas per hour.	

1398 Stills, "Ralston" New Process Water Still. Of copper, plated with pure block tin. Diameter 9 in., height 14 in.

12.00

The Pura Germ-Proof Aerating cap for same

.25

STOPCOCKS.



1401



1402



1403



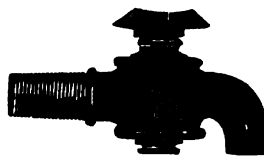
1404



1406



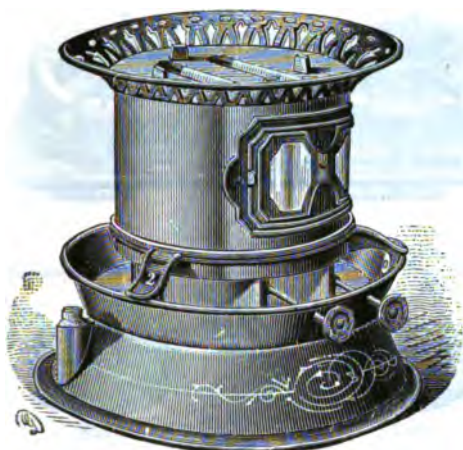
1408



1409

No.

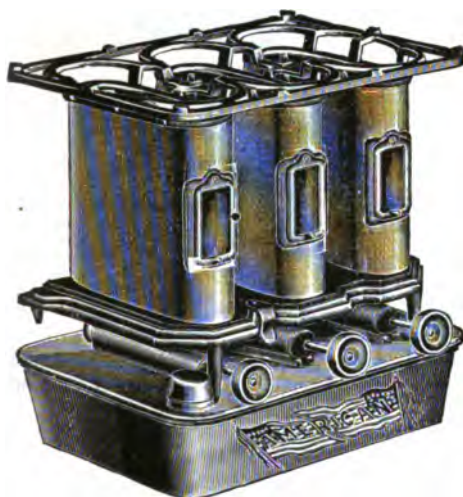
1401	Stopcocks, brass, double ends, for tubing connections.				
	Bore	$\frac{1}{4}$	$\frac{1}{2}$ in.		
	Each	\$0.75	1.00		
1402	Stopcocks, brass, one end for tubing, the other with male screw.				
	Bore	$\frac{1}{4}$	$\frac{1}{2}$ in.		
	Each	\$0.75	1.00		
1403	Stopcocks, brass, one end for tubing, the other with female screw.				
	Bore	$\frac{1}{4}$	$\frac{1}{2}$ in.		
	Each	\$0.75	1.00		
1404	Stopcocks, brass, with double male screws.				
	Bore	$\frac{1}{4}$	$\frac{1}{2}$ in.		
	Each	\$0.75	1.00		
1405	Stopcocks, brass, with double female screws.				
	Bore	$\frac{1}{4}$	$\frac{1}{2}$ in.		
	Each	\$0.75	1.00		
1406	Stopcocks, brass, with male and female screws.				
	Bore	$\frac{1}{4}$	$\frac{1}{2}$ in.		
	Each	\$0.75	1.00		
1407	Stopcocks, Nipples, with either male or female end				\$0.25
1408	Stopcocks, of glazed acid proof stoneware, straight.				
	Bore	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1 in.
	Each	\$2.00	2.25	2.50	3.00
1409	Stopcocks, of glazed acid proof stoneware, bent.				
	Bore	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1 in.
	Each	\$2.00	2.25	2.50	3.00



1421



1423



1422



1423a



1423a

No.				
1421	Stoves, for kerosene.	"Improved Summer Queen," with water pan to keep oil reservoir cool.		
	With	1	2	3 burners.
	Burner	3	3	4 in. wide.
	Each	\$1.80	2.50	4.00
1422	Stoves, for kerosene.	"The American."		
	With	1	2	3 burners, 4½ in. wide.
	Each	\$1.00	2.00	3.00
1423	Stoves, for kerosene.	"Khotal." Of heavy polished brass. It burns kerosene without any wick. Complete with detachable tripod frame...		
				\$4.00
1423a	Stoves, for kerosene.	"Perfection," wickless blue flame.		
	With	1	2	3 burners.
	Each	\$4.30	7.15	9.30



1424 No. 3.



1424 No. 4.



1424a



1427

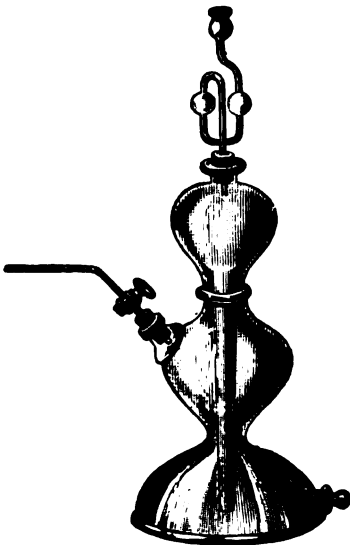


1428



1429

No.					
1424	Stoves, for gas. "Active."				
	No. 3, single, 4½ in. high, 8½ in. diameter				\$1.75
	No. 4, double, 4½ in. high, 21 in. long				5.00
1424a	Stoves, for gasoline. "Reliable."				
	With	1	2	3 burners.	
	Each	\$3.50	5.00	6.50	
1425	Stove Wicks, to fit stoves Nos. 1421 and 1422.				
	Size	3	4	4½ in. wide.	
	Doz.	\$0.30	.40	.40	
	Stoves; see also Burners, page 91, and Lamps, page 169.				
1426	Streak Plates; for mineralogists and for arsenic test.				
	Size	3x1½	4x2½ in.		
	Each	\$0.20	.30	Royal Meissen.	
	Each	.10	.20	Thuringian.	
1427	Strainers, porcelain, hemispherical form.				
	Dia.	2½	3½	4	5
	Each	\$0.30	.35	.40	.50
					.75
1428	Strainers, porcelain, flat bottom, straight sides.				
	Dia.	4½	8	10	12 in.
	Each	\$0.60	1.00	1.25	2.00
1429	Strainers, porcelian, with handle, 6 in. diameter, 6 in. high				2.50



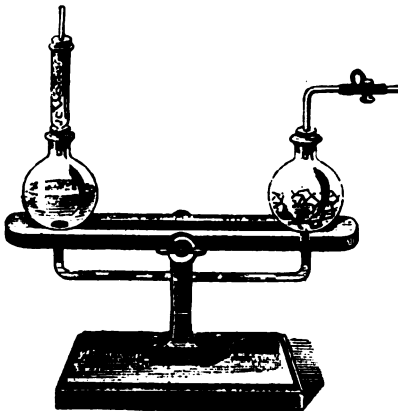
1430



1431



1432



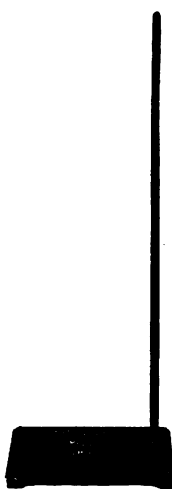
1433

No.						
1430	Sulphuretted Hydrogen Generator, Kipp's form.	Size	$\frac{1}{2}$ pt.	1 pt.	1 qt.	$\frac{1}{2}$ gal.
		Each	\$3.50	4.00	5.00	7.00
1431	Sulphuretted Hydrogen Generator, Bonn form.					
	Size, 12 in. high, 3 in. dia.					\$4.00
	Size, 24 in. high, 5 in. dia.					8.00
1432	Sulphuretted Hydrogen Generator, Colorado form. Quart size, giving constant supply					1.50
1433	Sulphuretted Hydrogen Generator, Babo's form. Very handy where a frequent supply of small quantities of H₂S is needed, complete, mounted on improved stand, with rubber stoppers, pinch-cocks and delivery tube					2.75
	The semi-circular tube alone					1.25

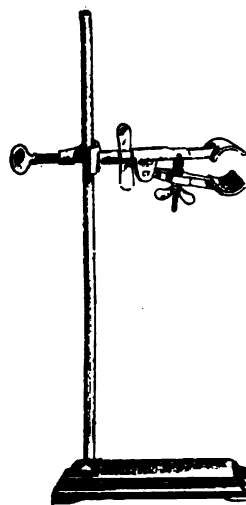
SUPPORTS.



1441



1442



1443

No.

1441 Supports, triangular base and rod only, for use with any clamp.

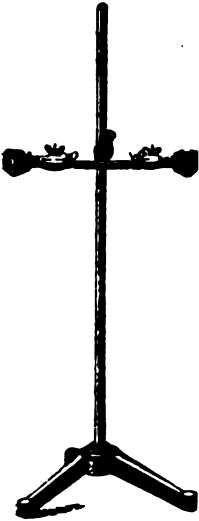
Size Rod	Small 18	Medium 20	Large 26	Extra Large 36 in.
Each	\$0.35	.50	.75	1.00

1442 Supports, rectangular base and rod only; for use with any clamp. Length of rod same as No. 1441.

Size Base	Small 4x6	Medium 5x8	Large 6x9	Extra Large 7x10 in.
Each	\$0.30	.40	.65	1.00

1443 Supports, for burettes; iron base, rod and clamps.

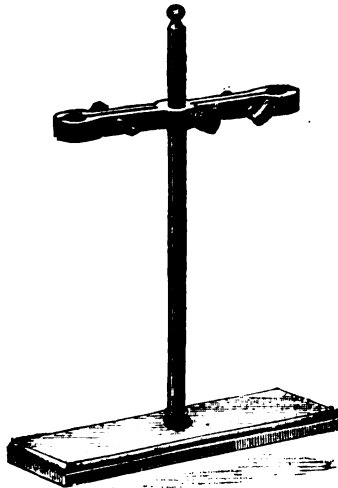
With	1	2	3 clamps.
Each	\$0.90	1.40	1.90



1444

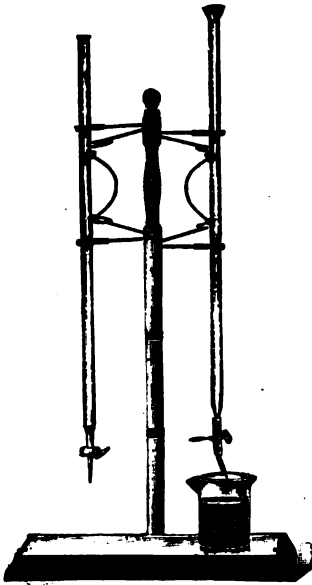


1445

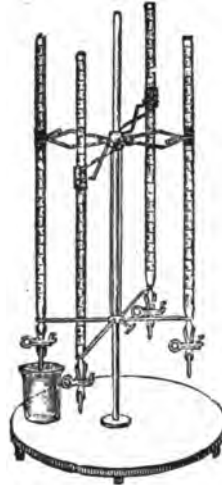


1446

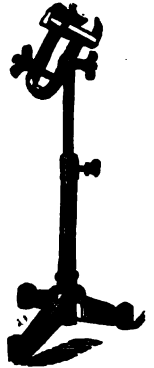
No.			
1444	Supports, for burettes, iron, with one double Hofmann Clamp.....	\$1.25	
1445	Supports, for burettes, wood, revolving, holding 8 burettes.....	4.00	
1446	Supports, for burettes, hard wood, oiled, brass hinge clamp, lined with cork.		
	For 1 2 burettes.		
	Each \$0.85 1.25		



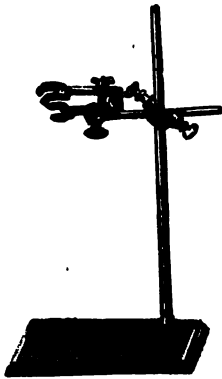
1447



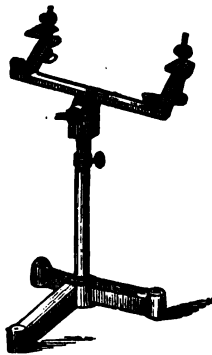
1448



1449



1450



1451



1451a

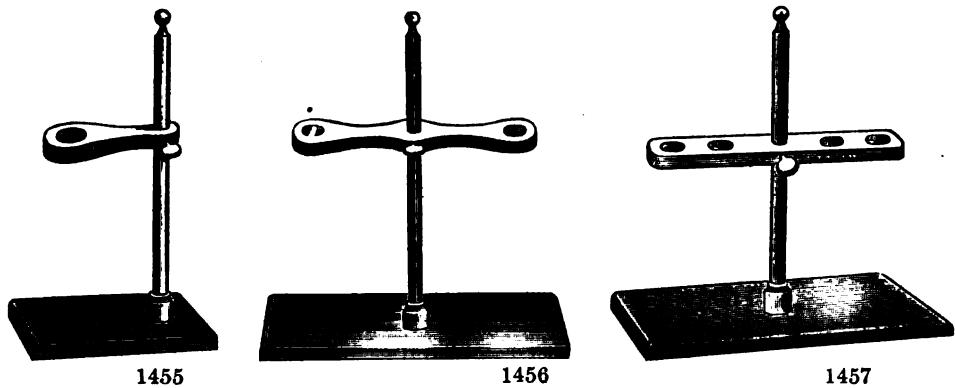
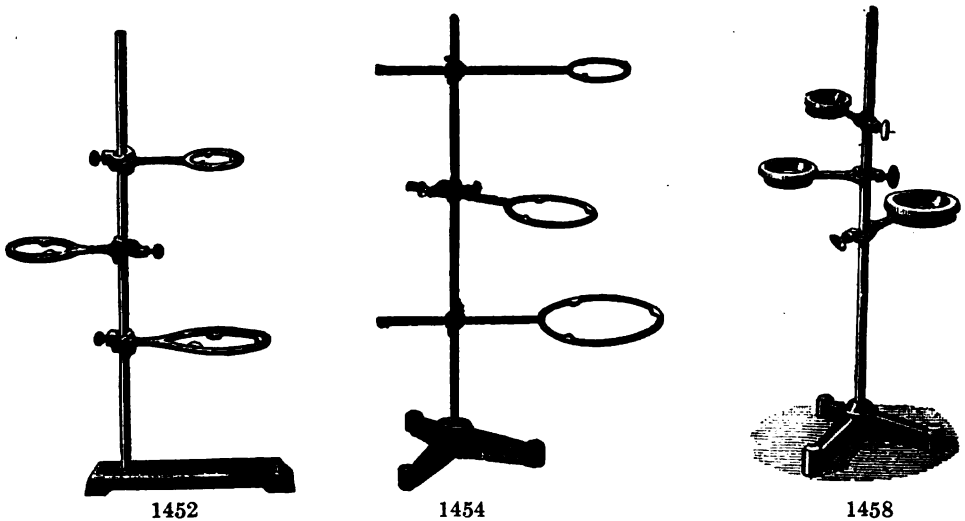
No.

- 1447 Supports, for burettes, Chaddock's. With square milk glass plate, black walnut base with porcelain plate, clamp of japanned spring wire on turned maple upright, thumb opens the rubber covered V-shaped jaws, which close upon the burette and hold it firm and true.

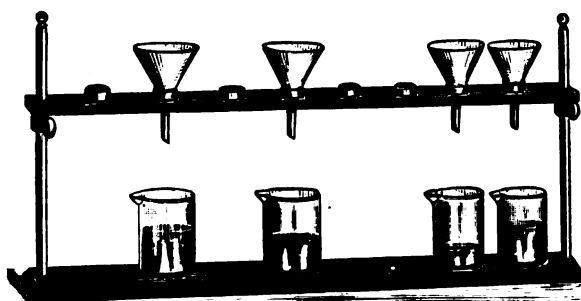
For 1 2 3 burettes.

Each \$2.00 3.00 5.00

- | | | |
|-------|--------------------------------------------------------------------------------------------------|--------|
| 1448 | Supports, for 4 burettes; solid porcelain base, revolving clamps; a very desirable support | \$7.00 |
| 1449 | Supports, for condensers; iron, with universal clamp; height adjustable .. | 3.00 |
| 1450 | Supports for condensers; iron, with Bunsen's large clamp | 2.50 |
| 1451 | Supports, for condensers; iron, with universal movement | 3.00 |
| 1451a | Supports, for condensers, wood, for all sizes | 1.50 |



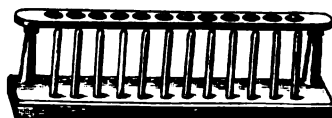
No.					
1452	Supports, for dishes, flasks, retorts, etc., "Ring Stands," rectangular base.				
	Rings	1	2	3	4
	Each	\$0.35	.45	.65	1.10
1453	Supports, for dishes, flasks, retorts, etc., "Ring Stands," triangular base, same price as No. 1452.				
1454	Supports, for dishes, flasks, retorts, etc., with extension rings.				
	Rings	2	3	4	
	Each	\$1.00	1.50	2.00	
1455	Supports, for funnels, wood, with 1 arm.				\$0.80
1456	Supports, for funnels, wood, with double arm. ....				.90
1457	Supports, for funnels, wood, 1 double arm for 4 funnels ....				.90
1458	Supports, for funnels, iron, with 3 wood-lined rings.				1.50



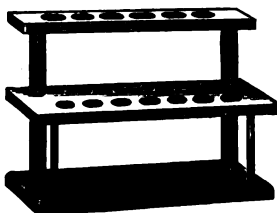
1459



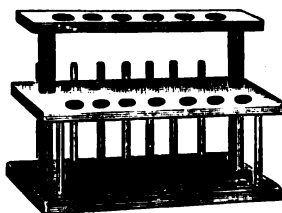
1461



1462



1463



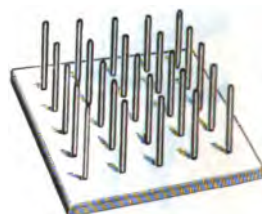
1464



1465



1466

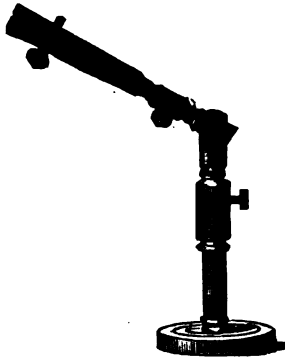


1467

No.		
1459	Supports, for funnels; height adjustable, 6 funnels in one line.	\$1.50
1460	Supports, for 12 test tubes in one row, without pins . . . . .	.30
1461	Supports, for 6 test tubes, with pins . . . . .	.45
1462	Supports, for 12 test tubes in one row, with 12 pins, heavy base . . . . .	.60
1463	Supports, for 13 test tubes in two shelves . . . . .	.45
1464	Supports, for 13 test tubes in two shelves, with 7 pins . . . . .	.60
1465	Supports, for 12 test tubes in two rows, with 12 pins, for large tubes	1.00
1466	Supports, for 12 extra large tubes of 1½ in.; for lecture table.	1.50
1467	Supports, for drying test tubes, with 25 pins.	1.00



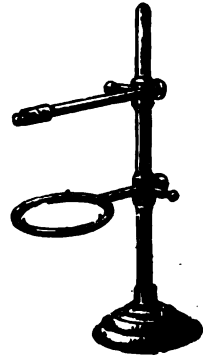
1468



1469



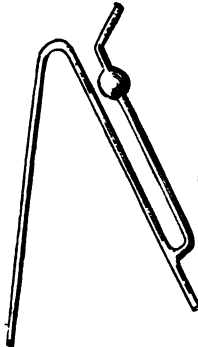
1470



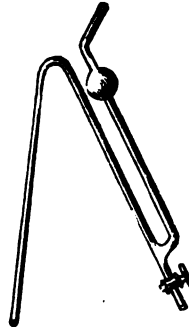
1471



1472



1473



1474



1475



1476

No.

1468 Supports, for pipettes, wood, revolving, holding 12 pipettes \$2.50

1469 Supports, Shellbach's, universal, wood 2.00

1470 Supports, Classen's, with two clamps 4.00

1471 Supports, Classen's, of metal, with 1 clamp and 1 ring 4.00

1472 Support Table, adjustable, 12 inch. 1.50

1473 Syphons, glass, with suction tube.

Length	8	12	18	24	30 in.
Each	\$0.25	.30	.40	.70	1.00

1474 Syphons, glass, with Geissler's glass stopcock and suction tube.

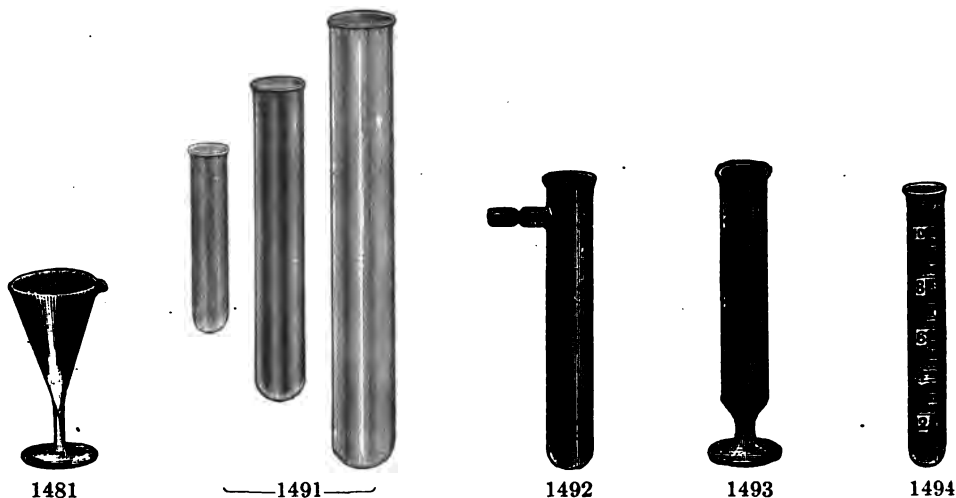
Length	8	12	18	24	30 in.
Each	\$1.10	1.25	1.40	1.60	1.80

1475 Syphons, glass, to take out samples from barrels, etc., so-called "glass thieves;" 36 inches long 1.50

1476 Syphons, glass, with one handle. Capacity 250 cc. \$0.50; 500 cc. .60

TEST TUBES.

FREE FROM LEAD.



No.							
1481	Test Glasses, with lip, coming to fine evenly coned point.	Capacity	1	2	4	6	8 oz.
		Each	\$0.15	.20	.25	.30	.35
1482	Test Paper, blue and red Litmus and Turmeric.	In small books.	Each, \$0.05;	Doz.	\$0.50		
		In sheets.	Each, .05;	Quire	.60		
1483	Test Paper, Squibb's Litmus, in vials, blue, red and neutral.	Vial	.10				
		Doz.	1.00				
1491	Test Tubes, best German glass, well annealed, free from lead; each piece wrapped in paper.	Size	3x $\frac{3}{4}$	4x $\frac{1}{2}$	5x $\frac{1}{2}$	5x $\frac{3}{4}$	6x $\frac{3}{4}$ in.
		Doz.	\$0.20	.25	.30	.30	.35
		Gross	1.75	2.50	2.75	3.00	3.20
		Size	6x $\frac{1}{2}$	6x1	7x $\frac{1}{2}$	8x1	9x1
		Doz.	\$0.35	.50	.50	.60	1.00
		Gross	3.75	5.00	5.00	6.50	10.00
1492	Test Tubes, with side neck.	Length	5	6	7	8 in.	
		Doz.	\$0.75	.85	1.00	1.30	
1493	Test Tubes, on foot,	Height	5	6	7	8 in.	
		Doz.	\$0.75	1.00	1.25	1.50	
1494	Test Tubes, graduated, capacity 10 cc. in 1-10. ....						.40
	Test Tubes, of hard glass; see Ignition Tubes, No. 1585.						
1495	Test Tube Caps, of rubber, for bacteriological purposes.	$\frac{3}{4}$ in. diameter	Doz.	.30			
		1 in. diameter	Doz.	.40			

THERMOMETERS.

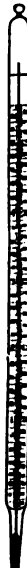
Made of Jena Normal Glass; best European manufacture; all provided with Air Bulbs.



1501



1502



1503

No.					
1501	Thermometers, chemical; scale engraved on stem, with white back, very exact; in pasteboard case.				
	Grad. to	100	200	250	360° C.
	Each	\$1.25	1.40	1.60	1.75
	Grad. to	212	400	600° F.	
	Each	\$1.25	1.40	1.75	
1502	Thermometers, chemical; milk glass scale, enclosed in glass tube; in pasteboard case.				
	Grad. to	100	200	250	360° C.
	Each	\$1.25	1.40	1.60	1.75
	Grad. to	212	400	600° F.	
	Each	\$1.25	1.40	1.75	
1503	Thermometers, chemical; paper scale, enclosed in glass tube; in pasteboard case.				
	Grad. to	100	200	250° C.	
	Each	\$0.80	1.00	1.20	
	Grad. to	212	400° F.		
	Each	\$0.80	1.00		
1504	Thermometers, chemical; with two scales engraved on the stem.				
	Registering 100° C. and 212° F.				\$2.00
	Registering 200° C. and 400° F.				2.25
	Registering 300° C. and 600° F.				2.50
1505	Thermometers, chemical; filled with nitrogen, to prevent the separation of the mercury; engraved on the stem, 0° to 400° C. or 0° to 700° F.				
					2.50
1506	Thermometers, Normal; filled above mercury with carbonic acid. With zero point, graduated on tube 180° to 550° C. or 200° to 1000° F.				
					10.00
1507	Thermometers, chemical; of Jena Normal glass, engraved on stem.				
	Grad. from	0° to 100° C. in 1-5°			3.25
	Grad. from	0° to 100° C. in 1-10°			4.00
	Grad. from	100° to 200° C. in 1-5°			3.50
	Grad. from	100° to 200° C. in 1-10°			4.00



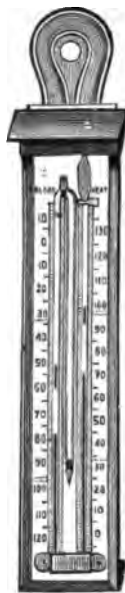
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1512



1514



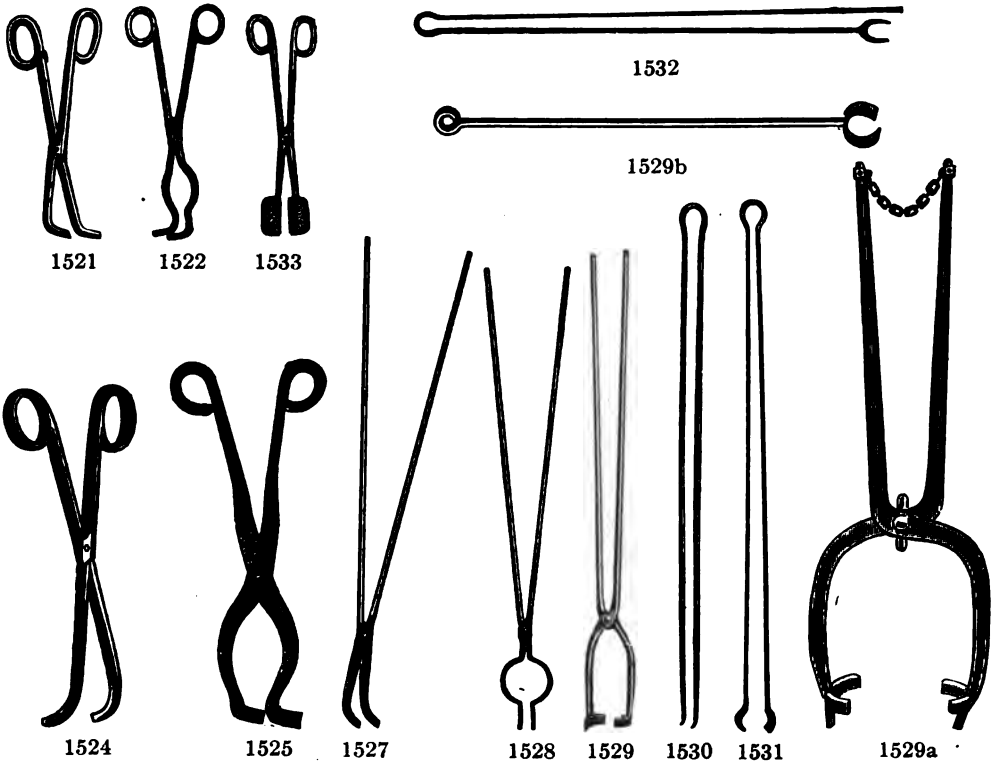
1515



1516

- 1508 Thermometers, Anschuetz'; Jena Normal glass.** Standard set for chemical work, especially for fractional distillations; length 10 to 14 cm., dia. 6 mm. Each instrument has ring for suspending. Nos. 4 to 7 are filled with nitrogen.
- Set as below, in case, graduated in $\frac{1}{2}^{\circ}$, in fine leather case **\$25.00.**
- | | |
|-----------------------------------------------|-----------------------------------------------|
| No. 1, from 10° to 55° C. | No. 5, from 195° to 265° C. |
| No. 2, from 45° to 105° C. | No. 6, from 240° to 310° C. |
| No. 3, from 96° to 160° C. | No. 7, from 295° to 360° C. |
| No. 4, from 140° to 220° C. | |
- 1509 Thermometers, chemical, graduated on stem, and this one again enclosed in glass tube to prevent graduation from wearing off.**
- | | | |
|----------|------------------|------------------|
| Grad. to | 150° C. | 400° F. |
| Each | \$2.00 | 2.00 |
- 1510 Thermometers, technical; in armored case to protect stem from breaking when thrown into vessels.**
- | | | |
|----------|------------------|------------------|
| Grad. to | 360° C. | 600° F. |
| Each | \$3.00 | 3.00 |
- 1511 Thermometers, chemical; bent at right angles, scale enclosed in glass tube.**
- | | | |
|----------|------------------|------------------|
| Grad. to | 100° C. | 212° F. |
| Each | \$2.00 | 2.00 |
- 1512 Thermometers, Incubator; graduated from -20° to 50° C. 3.00**
- 1513 Thermometers, "Minimum;" 10 in., boxwood, finely polished. 1.50**
- 1514 Thermometers, "Maximum;" 10 in., boxwood, finely polished. 1.50**
- 1515 Thermometers, "Maximum and Minimum;" combined in one instrument. . 3.00**
- 1515a Thermometers, "Maximum and Minimum;" U. S. Weather Bureau pattern, mounted on one board 10.00**
- 1516 Thermometers, in japanned tin frames, good quality.**
- | | | | |
|--------|---------------|------------|------------|
| Length | 8 | 10 | 12 in. |
| Each | \$0.30 | .40 | .50 |
- 1517 Thermometers, Floating, Dairy, $0-150^{\circ}$ F.20**
- 1518 Thermometers, Floating, Paper scale, 8 in. long, 100° C. or 220° F.50**
- 1518a Thermometers, Floating, Paper scale 12 in. long, 100° C. or 212° F.60**
- 1519 Thermometers, Household, 10 in. long, on cherry back75**
- 1520 Thermometers, Brewers', 12 in. long, copper cup case 2.00**

TONGS.



No.		
1521	Tongs, crucible, forged steel, single bent, nickel-plated, 9 in. long	\$0.90
1522	Tongs, crucible, forged steel, double bent, nickel-plated, 9 in. long . . . . .	.90
1523	Tongs, crucible, same as No. 1521 or 1522, with heavy platinum plates, according to weight of platinum, approximate price	5.00
1523a	Tongs, crucible, pure nickel, double bent, strong, 9 in. long	3.00
1523b	Tongs, crucible, aluminum, double bent, light, 8 in. long . . . . .	.75
1524	Tongs, crucible, rod iron, single bent, japanned, 9 in. long . . . . .	.50
1525	Tongs, crucible, rod iron, double bent, japanned, 9 in. long . . . . .	.50
1526	Tongs, crucible, rod iron, double bent, japanned, 18 in. long	1.00
1527	Tongs, crucible, steel, single bent, 30 and 36 in. long	1.25
1528	Tongs, crucible, steel, double bent, 30 and 36 in. long	1.25
1529	Tongs, crucible, steel, double bent, for lifting crucibles vertically, 36 in. long	2.50
1529a	Tongs, crucible, used when lifting black-lead or other heavy crucibles with a crane, so-called "basket tongs."	

For Crucibles Nos. . . . 10 to 20 25 to 50 60 to 100 125 to 150

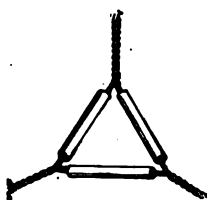
	Each	\$12.00	14.00	15.00	18.00	
1529b	Tongs, crucible, steel, crucible lifter, to take crucibles of any size up to 30 grm., 40 inches long, each . . . . .					.80
1530	Tongs, cupel, steel, light, 30 and 36 in. long . . . . .					.80
1531	Tongs, cupel, steel, light, with flat rounded ends, 30 and 36 in. long . . . . .					.80
1532	Tongs, scorifier, steel, light, 30 and 36 in. long . . . . .					.80
1533	Tongs, for mattresses and flasks, brass, cork-lined, 7 in. long90
	Tongs, any size made to order.					



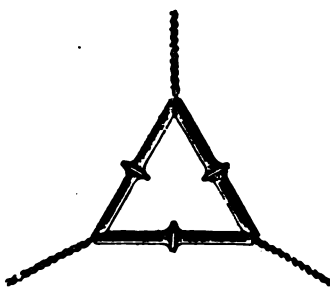
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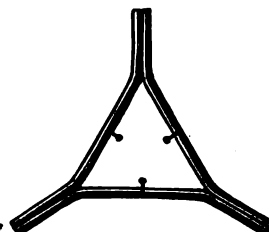
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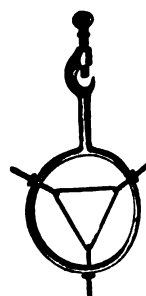
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1546



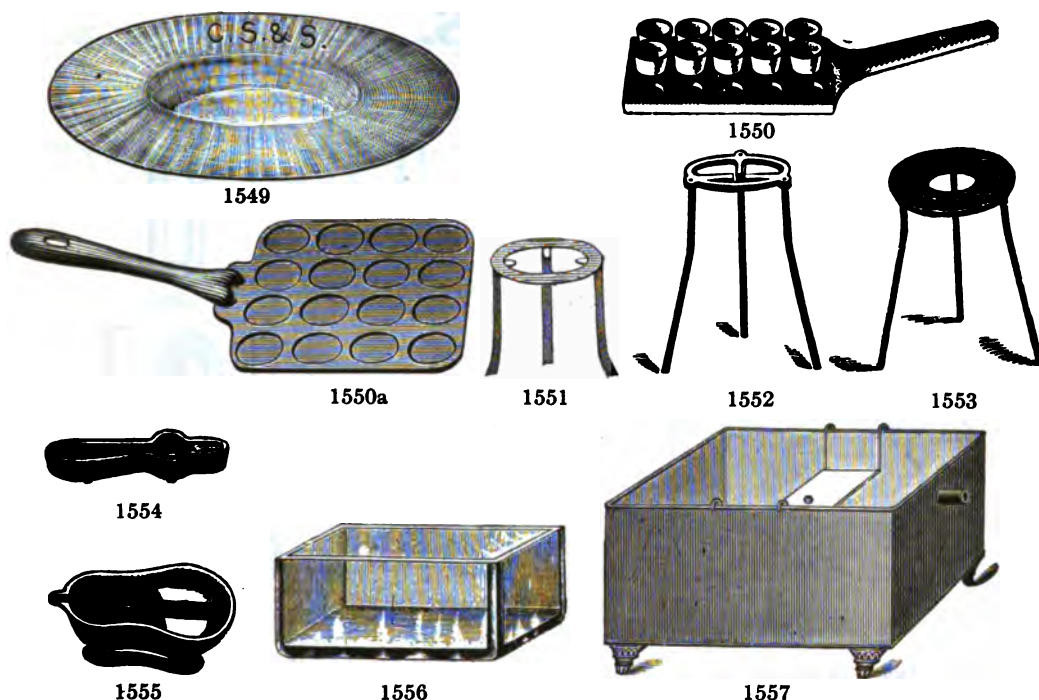
1547a



1548

No.

1534	Transit, Brunton Patent Pocket Mine Transit. The cut illustrates a new pocket instrument which furnishes means for performing, within the limits of accuracy imposed by its size and construction, the operations for which the ordinary transit is used. The instrument has been designed especially to meet the wants of mining engineers, mine managers and superintendents, but its peculiar features render it admirably adapted to the requirements of geological field work, the taking of topography, and, in short, to any purpose for which a light pocket instrument is desirable, and where a moderate degree of accuracy will suffice.				\$25.00
1544	Triangles; plain iron; small, medium, large	Each	\$0.05;	Doz.	.50
1545	Triangles; pipestem covered iron wire; small, medium and large	Each	\$0.10;	Doz.	.75
1546	Triangles; pipestem covered iron wire; improved form; small, medium and large	Each	\$0.10;	Doz.	1.00
1547	Triangles; pure nickel, plain.				
	Sides	5	6	7 ctm.	
	Each	\$0.20	.25	.30	
1547a	Triangles; according to Heraeus, of nickel with 3 platinum points	Each	3.00		
	Triangles; platinum, see Platinum Triangles, No. 1271.				
1548	Triangle Holders; Sargent's adjustable; holding triangles firm and in place . . .	1.00			



No.						
1549	Trays, of paper S. & S., for drying small quantities of crystals from the water of crystallization. Per box of 25 trays					\$3.25
1550	Trays, for annealing cups; of fire clay, for handling annealing cups in muffles. Also extensively used for silica fusions.	Each				.75
1550a	Trays, for cupels, holding 16 cupels, with detachable handle, all iron. . . . .					.75
1551	Tripods, brass, dissectible, for alcohol lamps. . . . .					.60
1552	Tripods, iron, Bunsen's, for burners . . . . .					.30
1553	Tripods, iron; with concentric rings.					
	With	2	3	4	5 rings.	
	Each	\$0.30	.40	.60	.90	
1554	Troughs, mercury; porcelain, cross form, capacity 6 lbs. mercury. . . . .					.90
1555	Troughs, mercury, porcelain, oblong.					
	Capacity	8	16 lbs.			
	Each	\$1.00	1.50			
1556	Troughs, glass, with ground off rims.					
	Length	8	10	12 in.		
	Width	4	6	8 in.		
	Height	4	5	6 in.		
	Each	\$1.50	2.00	3.00		
1557	Troughs, pneumatic, japanned zinc, with sliding shelf and overflow.					
	Size	5x7x10	5x9x12	6x11x15	8x12x18 in.	
	Each	\$1.25	1.50	1.75	2.00	

TUBES.



1561



1562



1563



1564



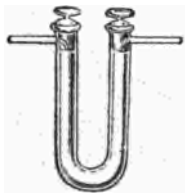
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1566



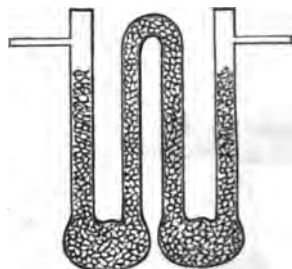
1567



1568



1569



1570

No.

1561 Tubes, calcium chloride, with one bulb.

Length	3	4	5	6	8 in.
Each	\$0.10	.11	.12	.13	.15

1562 Tubes, calcium chloride, with two bulbs.

Length	5	6	7	8	10 in.
Each	\$0.13	.15	.18	.20	.25

1563 Tubes, calcium chloride, U shaped, plain.

Length	3	4	5	6	8	10 in.
Each	\$0.12	.14	.18	.22	.30	.40

1564 Tubes, calcium chloride, U shaped, with side tubes.

Length	4	5	6	8 in.
Each	\$0.15	.20	.25	.35

1565 Tubes, calcium chloride, Woehler's, with three bulbs.

Length	4	5	6 in.
Each	\$0.30	.40	.50

1566 Tubes, calcium chloride, Volhard's.

Length	5	6 in.
Each	\$0.30	.35

1567 Tubes, calcium chloride, Marchand's.

Length	4	5	6 in.
Each	\$0.30	.35	.40

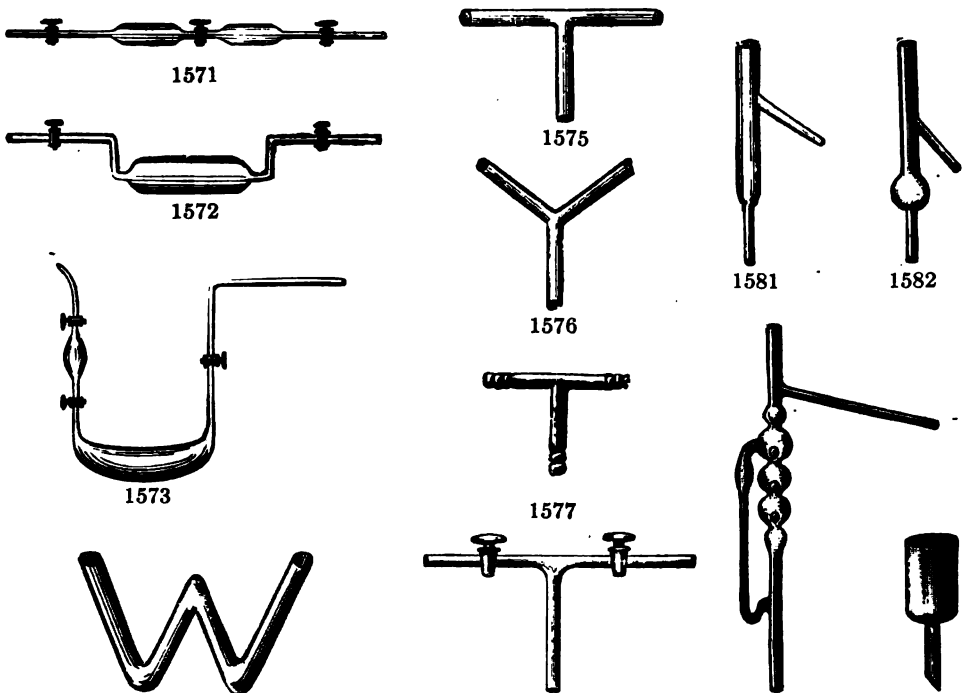
1568 Tubes, calcium chloride, Bischof's, with perforated stopper.

Length	5	6 in.
Each	\$1.00	1.25

1569 Tubes, calcium chloride, Braun's, with side bulb and perforated stopper.

Length	4	6 in.
Each	\$1.10	1.40

1570 Tubes, calcium chloride, Thoenner's \$2.00



No.	1574	1579	1583	1584		
1571	Tubes, condensing, Liebig's, for sulphurous acid.....				\$3.00	
1572	Tubes, condensing, Schumann's, for sulphurous acid				2.50	
1573	Tubes, condensing, Fischer's, for sulphurous acid.....				3.50	
1574	Tubes, condensing, W shape, 6 in. high .....				.50
1575	Tubes, connecting, T shape, glass.					
	Bore	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	1 in.
	Each	\$0.10	.12	.15	.20	.30 .40
1576	Tubes, connecting, Y shape, glass, same prices as No. 1575.					
1577	Tubes, connecting; T shape, brass.					
	Bore	3-16	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$ in.	
	Each	\$0.25	.28	.30	.35	
1578	Tubes, connecting, Y shape, brass, same prices as No. 1577.					
1579	Tubes, connecting, T shape, glass, with two Geissler's stopcocks				2.25	
1581	Tubes, distilling, for fractional distillation, plain .....				.25
1582	Tubes, distilling, with one bulb .....				.30
1583	Tubes, distilling, Glinisky's, with glass, valves, 12 in.....				1.50	
1584	Tubes, filtering, Gooch's, of glass, for Gooch crucibles.					
	Dia.	20	25	28	31	34 38 mm.
	Each	\$0.15	.20	.25	.30	.35 .40
1584a	Tubes, ignition, heavy test tube form, lead free glass.					
	Length	4	5	6	8 in.	
	Dozen	\$0.60	.80	1.00	1.50	

WATER BATHS.



1611



1612



1613

No.

1611 **Water Bath, heavy copper, tin lined, with concentric rings and cover, handles and steam escape.**

Dia.	4	5	5½	6	8	10	12 in.
Each	\$0.85	1.00	1.20	1.40	2.25	4.50	8.00

1612 **Water Bath, heavy copper, tin lined and with Kekule's constant water level.**

Dia.	4	5	5½	6	8 in.
Each	\$1.50	1.75	2.00	2.25	3.00

1613 **Water Bath, heavy copper, with three 6-in. and four 4-in. openings, all provided with concentric rings and cover in center; with stopcock and constant water regulator. Size 23x14x5 in. \$20.00**



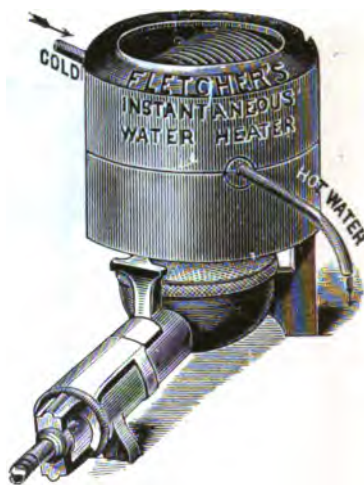
1614



1617



1615



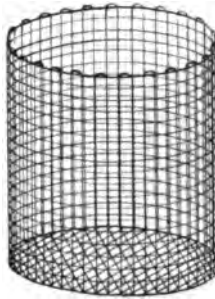
1620

No.

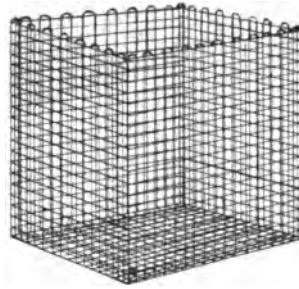
1614	Water Bath, of copper, same as No. 1613, but only with four 5-in. holes; size 13x14 in	\$15.00								
1615	Water Bath, of copper, for hot filtration and evaporation; size 13x7x5 in.	12.00								
1616	Water Bath, of copper, cylindrical, with round tray for 12 test tubes.	4.00								
1617	Water Baths, cylindrical, of iron, porcelain-lined inside, with set of copper rings and cover.									
	<table><tr><td>Dia.</td><td>5</td><td>6</td><td>8 in.</td></tr><tr><td>Each</td><td>\$1.50</td><td>2.00</td><td>3.00</td></tr></table>	Dia.	5	6	8 in.	Each	\$1.50	2.00	3.00	
Dia.	5	6	8 in.							
Each	\$1.50	2.00	3.00							
1620	Water Heater, Fletcher's, instantaneous	3.00								
	Complete with burner	5.00								



1621



1625a



1625b

No.

- | | | |
|------|--------------------------------------------------------------------------------------------------------------------------------|---------------|
| 1621 | Water Motors, Rabe's , small size, to operate stirring or shaking apparatus in laboratories. Complete with holder | \$7.50 |
|------|--------------------------------------------------------------------------------------------------------------------------------|---------------|

- 1621a Wire, copper.**

B. & S. Gauge No.	12	14	16	18	20	22	24
Per lb. spool	\$0.40	.42	.45	.48	.50	.55	.60
B. & S. Gauge No.	26	27	28	30	32	34	36
Per lb. spool	\$0.65	.70	.75	.80	1.00	1.20	2.00

- | | | |
|-------|-------------------------------------------------------------------------------------|-----|
| 1621b | Wire, copper, cotton covered No. 18, s. c. office or annunciator wire lb. | .50 |
|-------|-------------------------------------------------------------------------------------|-----|

- | | | |
|------|---------------------------------------------------|------|
| 1622 | Wire, iron, pure, for standardizing lb. | 1.50 |
|------|---------------------------------------------------|------|

Per $\frac{1}{4}$ lb. roll .50

Per 1 oz. spool .15

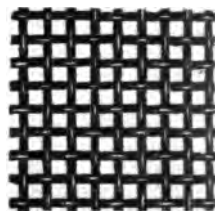
Wire, platinum, see Platinum Wire, No. 1273.

- 1625 Wire Baskets,** for bacteriological work.

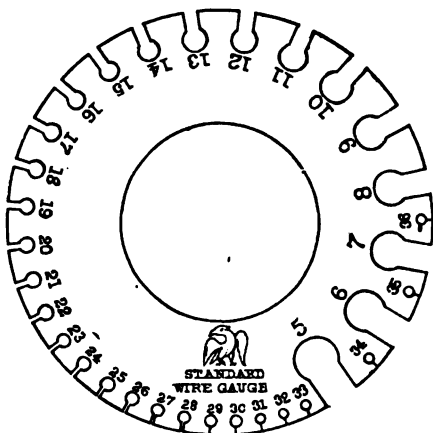
(a) Round	5x5	7x7	9x9 in.
Each	\$0.60	.70	.80
(b) Square	5x5x5	7x7x7	9x9x9 in.
Each	\$0.60	.70	.80



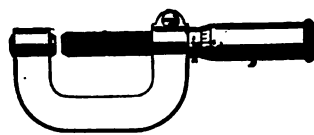
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1634



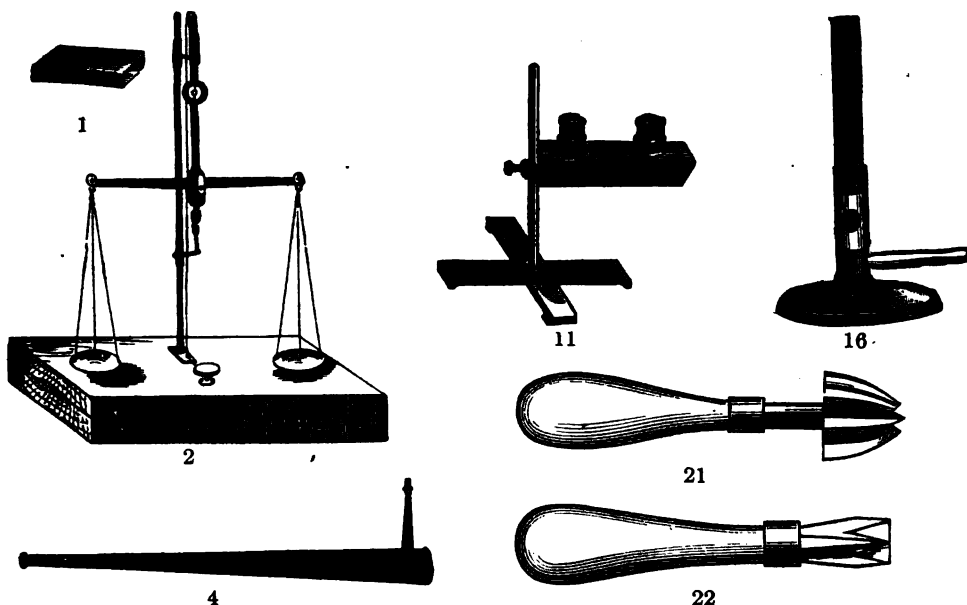
1641



1642

No.	1641								
1631	Wire Gauze, brass.	Mesh	10	20	30	40	50	60	70
		Sq. ft.	\$0.50	.50	.52	.55	.58	.60	.70
		Mesh	80	90	100	120	150	200	
		Sq. ft.	\$0.90	1.10	1.30	1.70	3.00	6.00	
1632	Wire Gauze, copper, for combustions, etc.	Size	20	40	60	80	100 meshes		
		Sq. ft.	\$0.70	.80	.90	1.20	1.50		
1633	Wire Gauze, iron.	Size	6	10	14	16	20	40	60 80 meshes.
		Sq. ft.	\$0.20	.25	.28	.30	.30	.45	.70 1.00
1634	Wire Gauze, iron, correct thickness for heating beakers, dishes, etc.	Size	4	5	6	8 in. sq.			
		Each	\$0.06	.08	.10	.20			
1635	Wire Gauze, brass, correct thickness for heating beakers, dishes, etc.	Size	4	5	6	8 in. sq.			
		Each	\$0.10	.15	.20	.40			
1641	Wire Gauges, American standard, 5-36								\$3.00
1642	Wire Gauges, micrometer, giving fractions of inches or millimeters, in morocco case, B. & S. No. 15								6.00

BLOW PIPE APPARATUS.

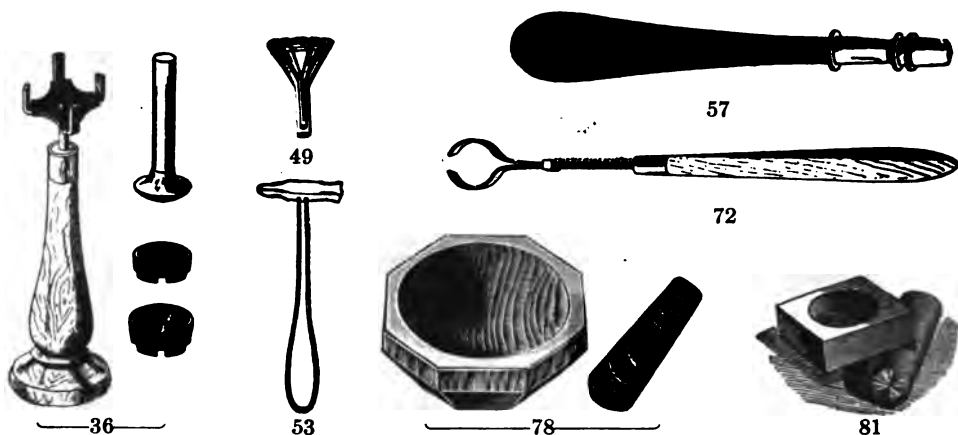


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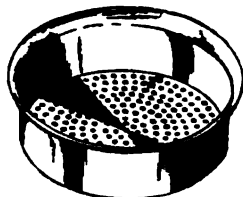
1700

Blow Pipe Apparatus, according to Prof. Plattner, for qualitative and quantitative blow pipe analysis, made after samples taken from the original "Freiberg" set.

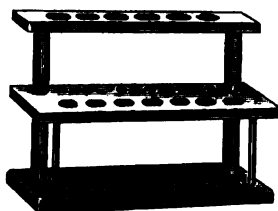
1	Anvil, small, best polished steel	\$ 0.50
2	Balance, Plattner's, in polished case, with set of weights	22.00
3	Beakers, lipped, 000 to 0 . . . . .	.25
4	Blow Pipe, Black's conical form with brass tip. . . . .	.25
5	Blow Pipe, jeweler's form, plain . . . . .	.15
6	Blow Pipe, brass, jeweler's form, with bulb. . . . .	.25
7	Blow Pipe, Berzelius', of brass, with platinum plate	1.40
9	Blow Pipe, Plattner's, nickel-plated, with movable platinum tip and hard rubber mouth-piece.	2.25
11	Blow Pipe Lamp, Plattner's, nickel-plated	3.00
12	Blow Pipe Lamp, Plattner's, nickel-plated, with patent swivel	4.00
13	Blow Pipe Lamp, Fletcher's, polished brass. . . . .	.75
14	Blow Pipe Lamp, Fletcher's, brass, nickel-plated.	1.00
15	Blow Pipe Lamp, tin, for tallow . . . . .	.30
16	Burners, Bunsen's, with tip and tube for blow-piping . . . . .	.85
17	Button Brush . . . . .	.50
18	Capsules, of porcelain. . . . .	.20
19	Carbon Blocks, moulded, 4 in. diameter. . . . .	.30
20	Carbon Cylinders, moulded 3x1½ in. . . . .	.20
21	Charcoal Borer, club shape, large. . . . .	.75
22	Charcoal Borer, four-cornered, small. . . . .	.50
23	Charcoal Borer, with spatula. . . . .	.50
24	Charcoal Capsules. Doz.	.20
25	Charcoal Crucibles. Doz.	.20
26	Charcoal Holder, with platinum wire and shield.	2.25
27	Charcoal Saw. . . . .	.35



No.			
28	Charcoal Squares	Doz.	\$1.00
29	Charcoal Square Covers.	"	.40
30	Charcoals, natural.	"	.50
31	Charcoals, artificial.	"	.50
32	Clay Capsules	"	.20
33	Clay Crucibles	"	.20
34	Clay Cylinder.		.25
35	Cold Chisels		.25
36	Cupel Holder, with two moulds and one stamp		1.50
37	Dishes, of porcelain, three in set	Set	.25
38	Dropping Bottle		.35
39	Dropping Tube		.06
40	Files, round and triangular, with handles		.30
41	Forceps, see page 133.		
48	Forms, of boxwood, for paper cylinders		.15
49	Funnel, of glass, small, set of three.		.20
51	Funnel, of tin, japanned		.25
53	Hammers, Plattner's, polished wire handle		.75
54	Hardness Scales		2.00
55	Holder, for chimney and funnel.		1.50
56	Holder, for evaporating dish, with triangle		2.00
57	Holder, for platinum wire		.50
58	Holder, same as 57, with six wires		1.25
59	Ivory Spoon.		.20
60	Knife.		.25
61	Lamp, for alcohol, glass.		.50
62	Lamp, for alcohol, brass		.50
63	Magnet, Horseshoe		.25
64	Magnet, straight, with chisel edge		.35
65	Magnifiers, see page 174.		
70	Matrasses, with bulb	Doz.	.30
72	Matrass Holder		.30
73	Mixing Capsule, brass.		.20
74	Mixing Capsule, brass, nickel-plated		.30
75	Mixing Capsule, German silver.		.35
76	Mixing Capsule, horn		.15
77	Mixing Spatula, steel		.25
78	Mortar, agate, with pestle.		1.75



104



107



115

No.		
79	Mortars, steel, Plattner's Diamond, small	\$4.00
80	Mortars, steel, Plattner's Diamond, large.	6.00
81	Mortars, steel, Leed's form	2.00
82	Moulds, for charcoal square and covers	4.50
83	Moulds, for charcoal capsules .....	.75
84	Moulds, for charcoal crucibles .....	.50
85	Moulds, of brass, for clay crucibles	4.00
86	Moulds, of boxwood, for clay crucibles.	1.25
87	Moulds, of boxwood, for clay capsules. ....	.75
88	Nippers, flat nose (pliers) .....	.50
89	Platinum Foil .....	.60
90	Platinum Wire .....	.60
91	Platinum Crucible.	8.00
92	Platinum Spoon	2.00
93	Platinum Tip, for blow pipe. ....	.80
94	Pliers, for assay buttons, straight and bent. ....	.50
95	Scale, Plattner's, of ivory, for silver beads.	3.00
97	Scissors, for lamp .....	.50
98	Shears, for cutting metal.	1.00
99	Silver Foil, chem. pure. Oz.	1.00
100	Soda Papers. Box.	.20
101	Stirrers, of glass	Doz. .25
102	Streak Plate. ....	.20
103	Test Lead Measure .....	.25
104	Test Lead Sieve .....	.50
105	Test Tubes. Doz.	.25
106	Test Tube Holder .....	.15
107	Test Tube Support .....	.50
108	Tin Box, japanned, for charcoal squares .....	.75
109	Tin Box, japanned, for capsules and crucibles .....	.75
111	Tin Trays, japanned, for charcoal .....	.45
112	Tin Trays, japanned, for dirt .....	.35
113	Tubes, open at both ends, hard glass	Doz. .30
114	Tubes for arsenic reduction. ....	.10
115	Wash Bottle. ....	.75
116	Watch Glass, 2-inch	Doz. .25
117	Watch Glass Clip. ....	.20
118	Wicks, for Lamp	Bundle .10
119	Frame, for 18 reagents. ....	.60
120	Frame, with 18 cork-stoppered bottles, labeled.	1.50
121	Frame, with 18 glass-stoppered bottles, labeled.	2.00
122	Filling 18 bottles with reagents	2.00

PART II.

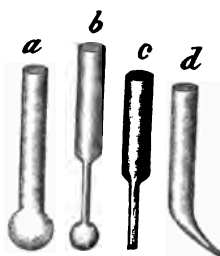
Special Chemical Apparatus for Analytical Work.



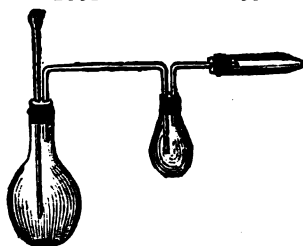
2001



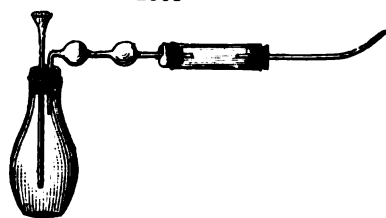
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2006



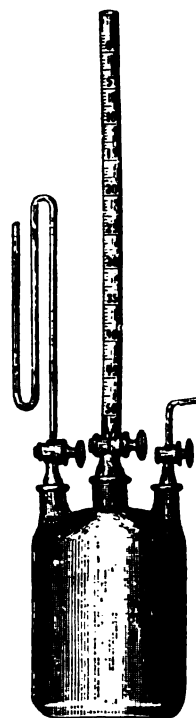
2003



2004



2009



2008

No.

A. ARSENIC DETERMINATION.

2001	Marsh's Apparatus, with stopcock, on polished wooden support	\$ 2.20
2002	Plain Marsh U Tube. ....	.40
2003	Fresenius' Arsenic Apparatus	1.00
2004	Berzelius' Arsenic Apparatus.	1.00
2005	Porcelain Test Plates, for arsenic apparatus .....	.20
2006	Reduction Tubes, form a, b, c, d	Each \$0.05; Doz. .50

B. CARBONIC ACID DETERMINATION.

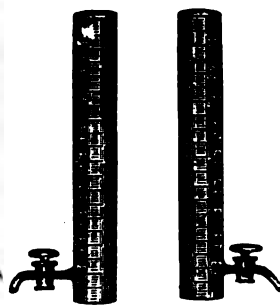
2007	Peterson & Palmquist's Apparatus for CO ₂ in air	50.00
2008	Ruedorff's Apparatus for CO ₂ in illuminating gas.	10.00
2009	Scheibler's Calcimeter, for CO ₂ in bone black	25.00
2010	Scheibler's, for CO ₂ in saturation gases	30.00



2010a



2011



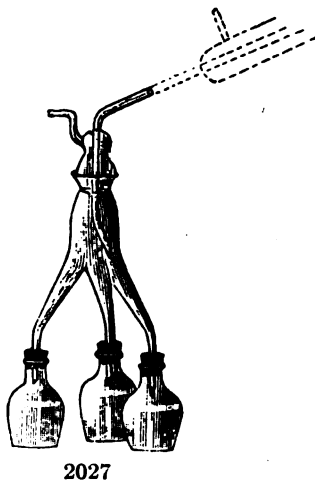
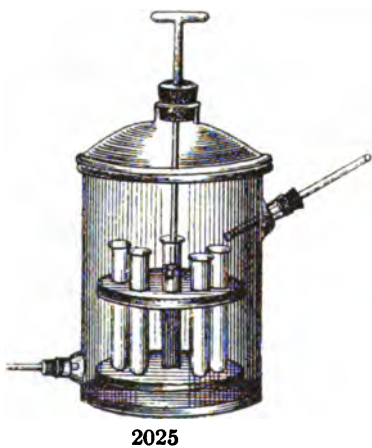
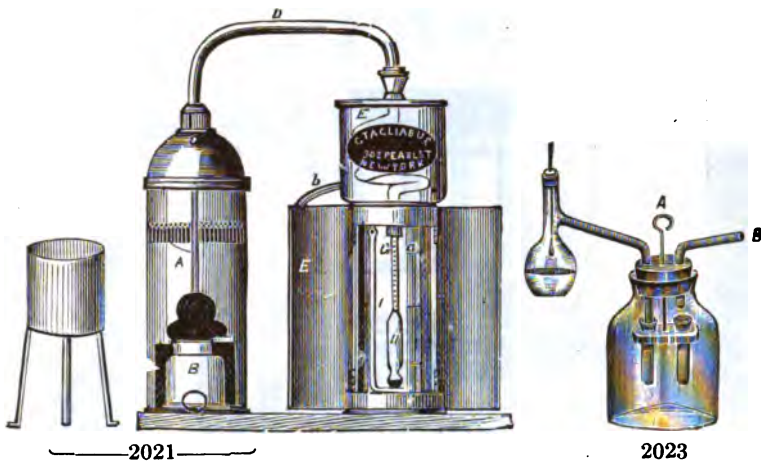
—2013—

B. CARBONIC ACID DETERMINATION.

No.		
2010a	Winkler's, for CO ₂ in atmospheric air and mines.	\$20.00

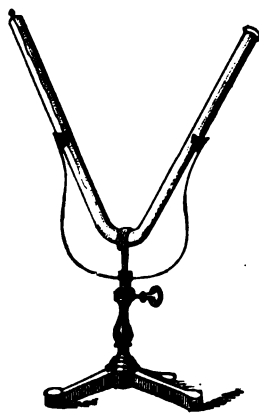
C. COLORIMETRIC DETERMINATION.

2011	Leed's Color Comparator. For quantitative analysis of substances in solutions, with prism	15.00
2012	Color Glasses. For Leed's Comparator Doz.	2.50
2013	Hehner's Colorimeter. For estimating ammonia in water; consisting of 2 graduated cylinders, with stopcocks.	4.00
2014	Gallenkamp-Heele's Colorimeter. With direct scale of percentage; easily and quickly adjusted and permitting very accurate readings, adapted for sugar factories, dyeing establishments, etc.	85.00
2015	Stammer's Colorimeter. For testing color in sugar analysis; latest form	60.00
2016	Wolff's Colorimeter. On iron base. This valuable instrument serves to determine aniline dyes, indigo, cochineal, dye woods, bone black, salicylic acid in absorbent cotton, smallest traces of copper, zinc, lead and chlorine, ammonia and nitrous acid in water, also for making colored indicators, etc.	80.00
2017	Duboscq-Soleil's Colorimeter	80.00
2018	Lovibond's Tintometer, with a complete set of 470 standard glasses.	300.00
2019	Stoke's Color Comparator, complete	15.00
2020	Stead's Colorimeter or Chromometer.	12.50

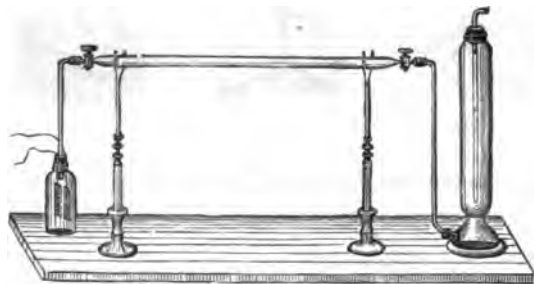


D. DISTILLING APPARATUS.

No.		
2021	Alembic Salleron, or Monitor Still, for testing wine and spirituous liquids, made of copper, complete in box	\$10.00
2022	Distilling Apparatus, Regnault's, for fractional distillation	15.00
2023	Distilling Apparatus, for fractional distillation under diminished pressure ..	3.00
2024	Distilling Apparatus, Hempel's, for fractional distillation, filled with beads..	2.00
2025	Distilling Apparatus, Bruhl's, for distillation in vacuo, with 5 cylinders of 40 cc. capacity.	10.00
2026	Distilling Apparatus, Fuch's Receiver, for distillation in vacuo	3.50
2027	Distilling Apparatus, Gautier's Receiver, for distillation in vacuo.....	4.00



2031

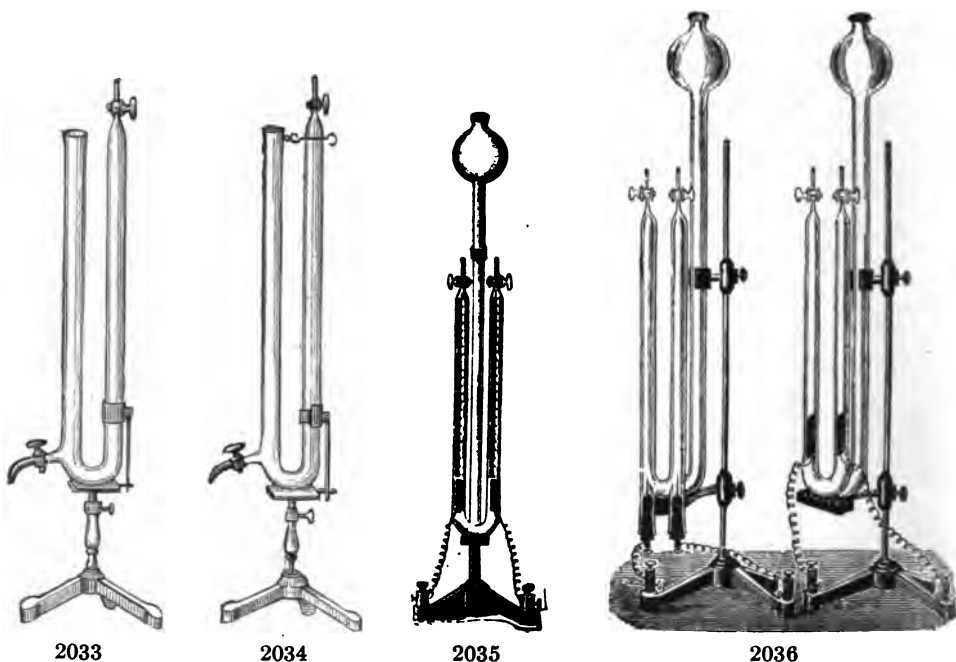


2032

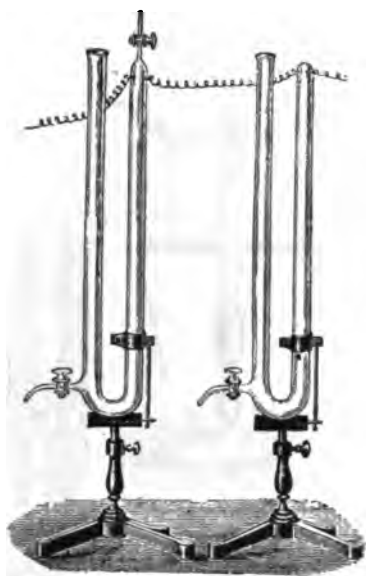
E. ELECTROLYTIC APPARATUS.

a. PROF. A. W. HOFMANN'S LECTURE APPARATUS.

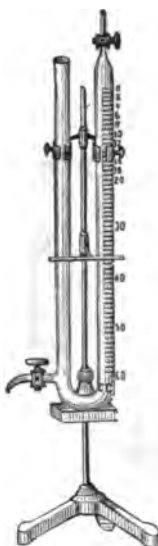
No.		
2031	Apparatus for the electrolytical decomposition of Hydrochloric Acid Water and Ammonia.	
2031a	The V-shaped tube with platinum electrodes.....	\$3.00
2031b	The support.	1.50
2032	Apparatus to demonstrate that Hydrochloric Acid is produced by the combination of 1 vol. of Chlorine with 1 vol. of Hydrogen. The apparatus consists of tube, 2 tube supports, chloride of calcium, jar, cylinder with enlarged top, and decomposing cell.	
2032a	The tube and cylinder	3.50
2032b	The tube supports only	2.50
2032c	The decomposing cell only	4.00



No.		
2033	Apparatus to determine the quantity of Hydrogen in 1 vol. of Hydrochloric Acid.	
2033a	The tube with two glass stopcocks	\$3.00
2033b	The support.	2.50
2034	Apparatus to demonstrate that 3 vols. of Hydrogen combine with 1 vol. of Nitrogen in 2 vols. of Ammonia.	
2034a	The tube with two glass stopcocks	4.00
2034b	The support.	2.50
2035	Apparatus to demonstrate that Water consists of 2 vols. of Hydrogen and 1 vol. of Oxygen.	
2035a	The graduated tube with platinum electrodes.	7.00
2035b	The support with binding screws.	3.00
2036	Apparatus for the simultaneous electrolytical decomposition of Water, Hydrochloric Acid and Ammonia.	
2036a	The graduated tube with platinum electrodes.	6.50
2036b	The graduated tubes with carbon electrodes Each	5.00
2036c	Supports with binding screws. Each	3.00



2037



2038



2039



2040

No.

2037 Apparatus to demonstrate that Hydrogen and Oxygen are combined in the same proportions as they are liberated from Water by electrolysis.

2037a Tubes with two glass stopcocks. Each \$4.00

2037b The middle tube with glass stopcock. 3.00

2037c The supports Each 2.50

2038 Apparatus to Lecture Eudiometer.

2038a The Eudiometer graduated in cubic centimeter 6.00

2038b The support. 2.50

2039 Apparatus to demonstrate that Oxygen has the same volume as the Carbonic Acid and the Sulphurous Acid formed from it.

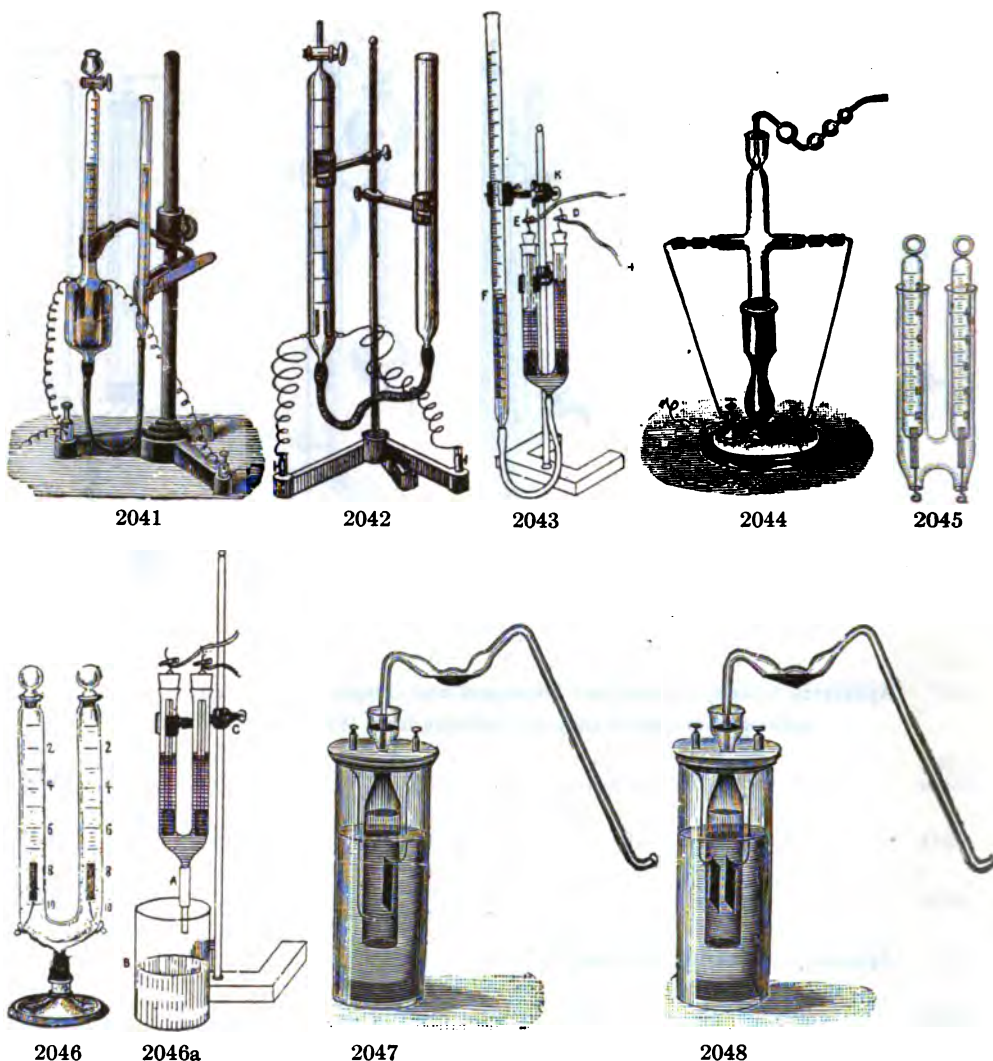
2039a The apparatus 6.00

2039b The support 2.50

hydrogen and Oxygen into Water
ce.

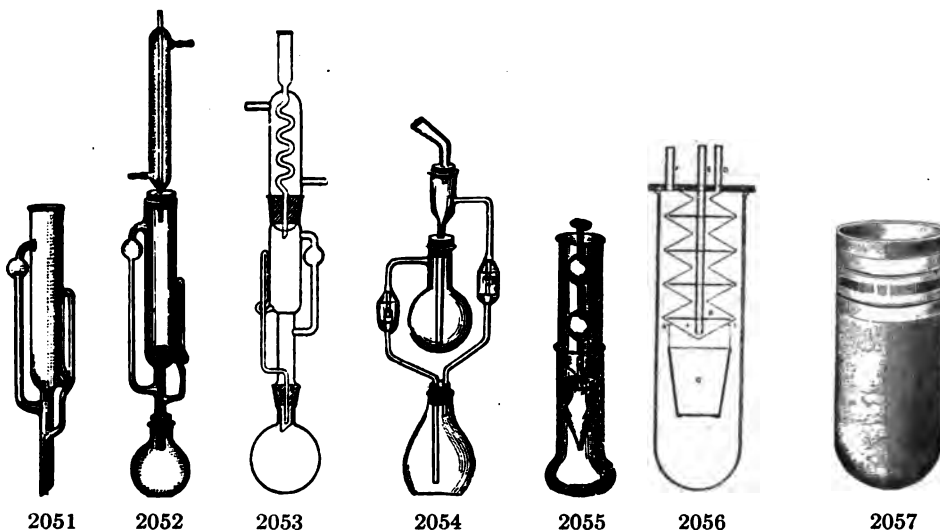
4.50

3.00



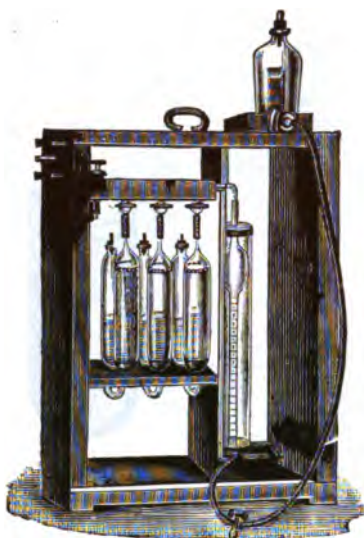
b. GENERAL ELECTROLYTIC APPARATUS.

No.		
2041	Classen's Voltmeter for quantitative analysis. Complete	\$10.00
2042	Measuring Voltmeter. Tube of 50 cc. divided into $\frac{1}{2}^{\circ}$, with support	9.00
2043	Skidmore's Voltmeter. For students, as used in Philadelphia Normal School	4.50
2044	Roscoe-Schorlemmer's Apparatus with carbon electrodes. For the production of chlorine detonating mixture, with support	5.00
2045	Electrolytic Tube for decomposition of water.	1.50
2046	Electrolytic Tube for decomposition of water. U tube with glass stoppers, etc	2.00
2046a	Electrolytic Tube, Skidmore's. For decomposition of water, tube only	2.50
2047	Electrolytic Apparatus for generation of hydrogen	4.00
2048	Electrolytic Apparatus for generation of oxy-hydrogen	4.00
2049	Apparatus for the electrolysis and synthesis of water	6.00

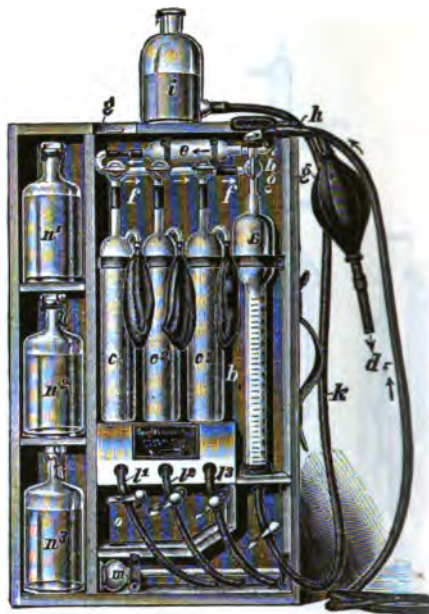


F. EXTRACTION APPARATUS.

No.					
2051	Extraction Apparatus, Soxhlet's.	With bulb in side tube.			
	Capacity	2	4	6 oz.	
	Each	\$1.20	1.50	2.00	
2052	Extraction Apparatus, Soxhlet's.	Complete with flask and condenser.			
	Capacity	2	4	6 oz.	
	Each	\$2.25	2.50	3.50	
2053	Extraction Apparatus, Soxhlet-Szombathi's.	All parts fitted by ground joints.			
	Capacity	2	4	6 oz.	
	Each	\$3.50	4.00	5.00	
2054	Extraction Apparatus, Schwarz'.	Joints to be closed by mercury seal.			
	Capacity	4	8 oz.		
	Each	\$2.00	2.75		
2055	Extraction Apparatus, Thorn's				\$2.00
2056	Extraction Apparatus, Wiley's.	Very simple and effective, dispensing with corks and other stoppers; permits a double weighing both of residue and extracted matter. Complete with nickel-plated metal condenser and porcelain Gooch crucible, fitted to tube with ground flange, to insure close connection			5.00
2057	Extraction Shells, seamless, of fat free paper.				
	Size	80x22	90x19	80x33	94x33 mm.
	Box of 25	\$1.75	1.75	2.00	2.50



2061



2062a



2063

G. GAS ANALYSIS APPARATUS.

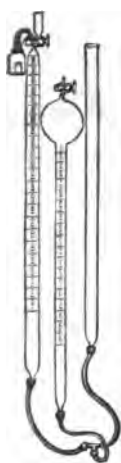
No.			
2061	Gas Apparatus, Orsat-Muencke's.	For analysis of CO_2 , CO and O , consisting of 3 absorption cylinders with copper spirals, stopcock, tube with 3-way stopcock, etc., complete in portable wooden case.	\$25.00
2062	Gas Apparatus, Orsat-Muencke's, modified,	with large universal stopcock, dispensing with 4 smaller ones.	35.00
2062a	Gas Apparatus, according to Constanz Schmitz.	This latest and most improved form of gas apparatus has the advantage over all other similar apparatus now in use, that it can be easily and safely carried from one place to another and yet is always ready for instantaneous use, as once rigged up, it never needs to be taken apart, neither for emptying nor filling the absorption tubes. Price of apparatus with 2 pipettes. Price of apparatus with 3 pipettes.	35.00 45.00
2063	Gas Drying and Washing Apparatus, Glaser's.	Consisting of 2 gas washing bottles, 2 CaCl_2 cylinders, U tube with 3 bulbs, glass tube with stopcock, glass and rubber tubing, pinchcocks and support, complete.	9.00



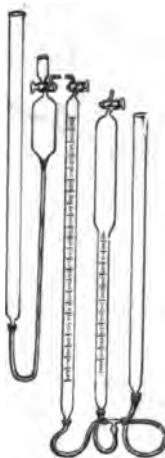
2064



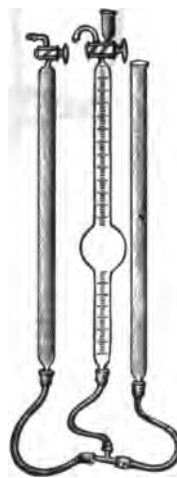
2065



2067

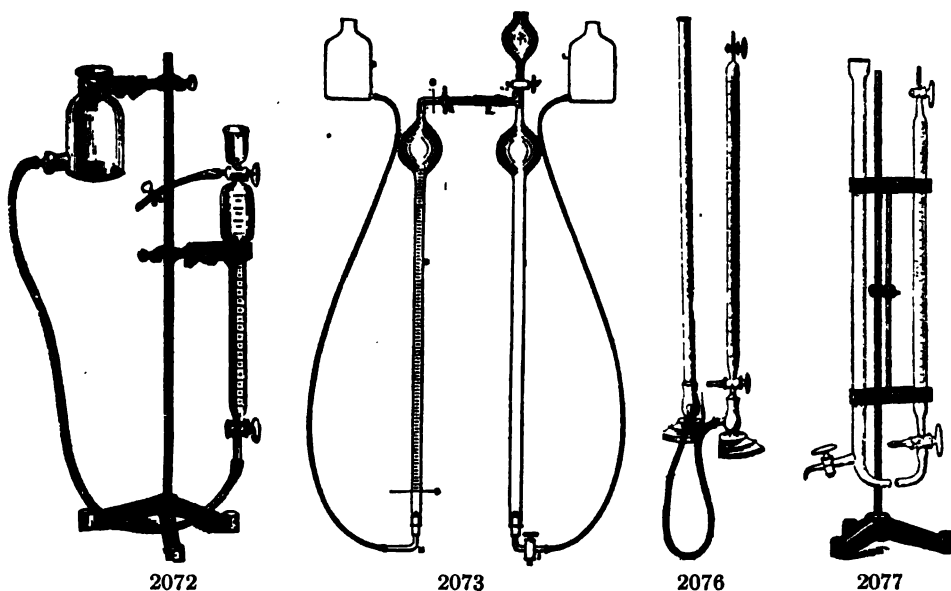


2068

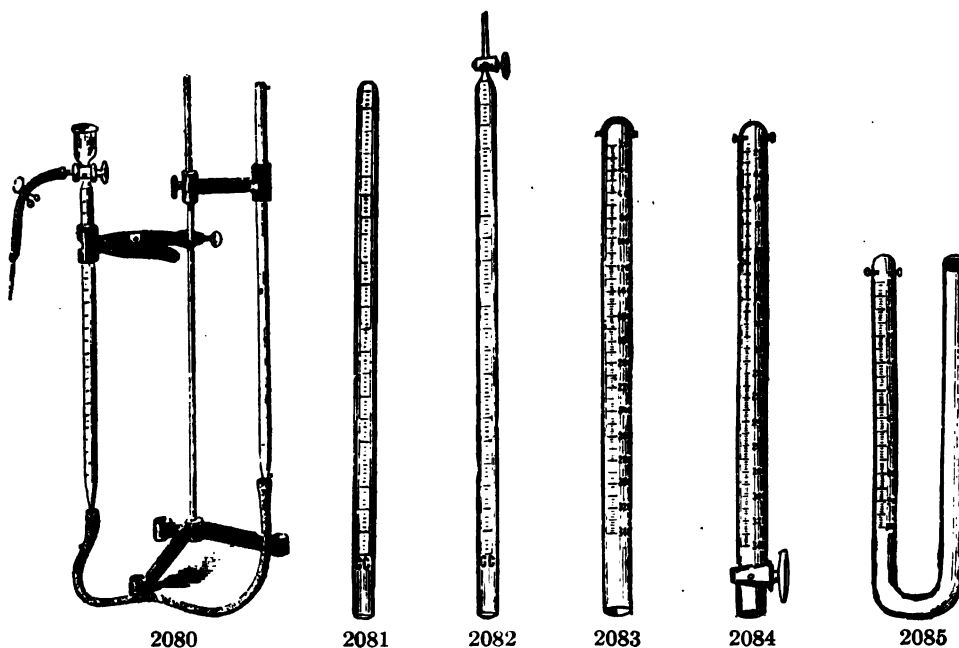


2069

No.		
2064	Gas Drying and Washing Apparatus, Bennert's, complete on wooden support.	\$10.00
2065	Gas Apparatus, Lindemann's, for determining Oxygen in atmospheric air and mines. Complete in case.	18.00
2066	Gas Apparatus, Thorne's, for absorption and direct analysis of gases dissolved in water. On wooden base.	5.50
2067	Gas Apparatus, Lunge's Volumeter. For analysis of soluble substances, like manganese, chloride of lime, animal charcoal, calcium carbonate, urea, etc. Complete with heavy rubber tubing.	15.00
2068	Gas Apparatus, Lunge's Volumeter. For analysis of saltpetre, nitrore, nitrocellulose and dynamite, complete	20.00
2069	Gas Apparatus, Lunge's Universal Volumeter. Complete with heavy rubber tubing.	15.00
2070	Gas Apparatus, Thorne's. For quick control of the working of gas generators.	15.00



No.		
2071	Gas Burette, Bunte's. Graduated, with two stopcocks.	\$ 6.00
2072	Same, complete with support and aspirator bottle.	9.00
2073	Gas Burette, Elliott's. For furnace and illuminating gases, complete as per illustration	15.00
2074	The two burette parts only.	12.00
2075	The explosion burette only.	8.00
2076	Gas Burette, Hempel-Winkler's. With glass stopcocks, set of two complete as per illustration, on lead charged base.	7.50
2077	Gas Burette, Winkler's. Complete with support	12.00
2078	The measuring tube and filling tube only.	8.00
2079	The measuring tube only.	6.00



No.
2080 Gas Burette, Lunge's 50 cc., without support. \$4.00

2081 Gas Measuring Tubes, Bunsen's.

	Capacity	25	50	100	200	300 cc.
Grad.		1-5	1-5	$\frac{1}{2}$	1-1	1-1°
Each		\$0.75	1.00	1.50	1.60	2.50

2082 Gas Measuring Tubes, Bunsen's. With stopcock.

	Capacity	50	100 cc.
Grad.		1-10	1-5°
Each		\$2.25	2.75

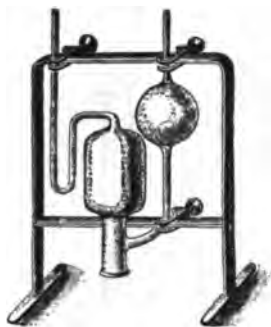
2083 Gas Eudiometer, Bunsen's. With platinum electrodes.

	Capacity	300	500	700	800 mm.	50	100 cc.
Each		\$2.00	2.50	3.00	3.50	2.00	2.50

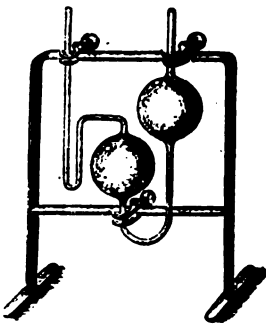
2084 Gas Eudiometer, Mitscherlich's. With stopcocks and platinum electrodes.

	Capacity	50	100 cc.
Grad.		1-5	1-5°
Each		\$3.00	3.50

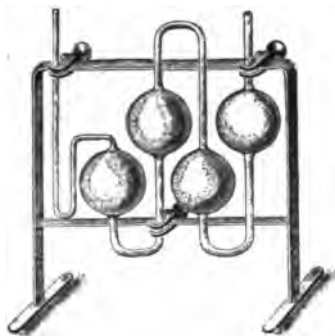
2085 Gas Eudiometer, Ure's. U form, with platinum electrodes. 2.50



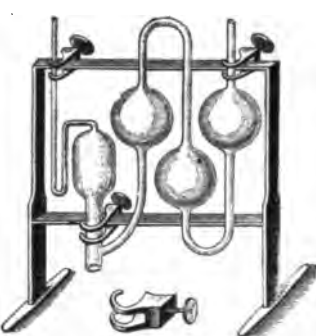
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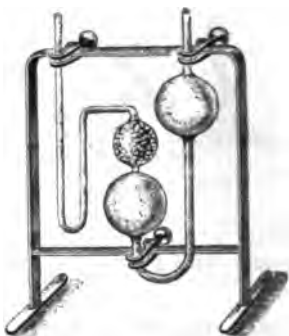
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2092



2093

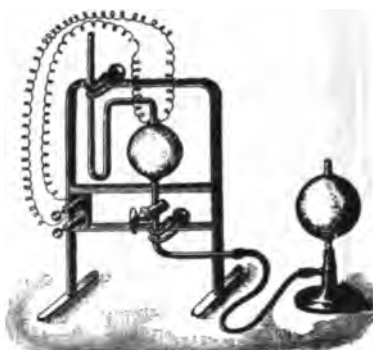


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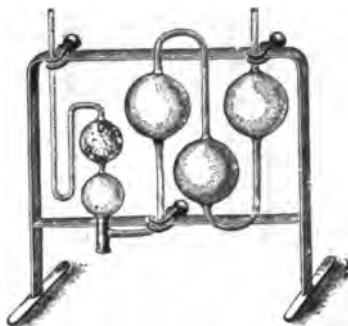
No.			
2090	Gas Pipettes, Hempel's.	Absorption, simple, for solids, mounted	\$ 2.50
		Glass part, alone	1.20
2091	Gas Pipettes, Hempel's.	Absorption, simple, for liquids, mounted	2.50
		Glass, part alone	1.20
2092	Gas Pipettes, Hempel's.	Absorption, compound, for liquids, mounted	3.50
		Glass part, alone	2.00
2093	Gas Pipettes, Hempel's.	Absorption, compound, for solids, mounted	3.50
		Glass part, alone	2.00
2094	Gas Pipettes, Hempel's.	Ethylene, bulb filled with glass beads, mounted	3.50
		Glass part, alone	2.00



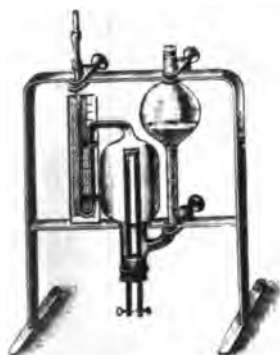
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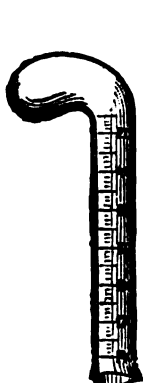


2099



2100

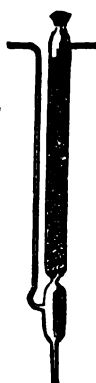
No.			
2095	Gas Pipettes, Hempel's. Explosion, mounted.	\$6.50	
	Glass part, alone	4.00	
2096	Gas Pipettes, Hempel's. Explosion, with leveling bulb	6.50	
	Glass part, alone	3.50	
2097	Gas Pipettes, Hempel's. Hydrogen, mounted	4.50	
	Glass part, alone	2.50	
2098	Gas Pipettes, Hempel's. For estimation of methane, with platinum spiral.	5.00	
	Glass part, alone	1.50	
2099	Hempel's Palladium Tube. For absorption; filled with palladium black..	2.50	
2100	Gas Absorption Tube, Bunsen's, straight, graduated	1.00	



2101



2102



2103



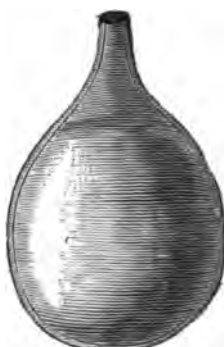
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2104a



2105



2106



2107



2108

No.

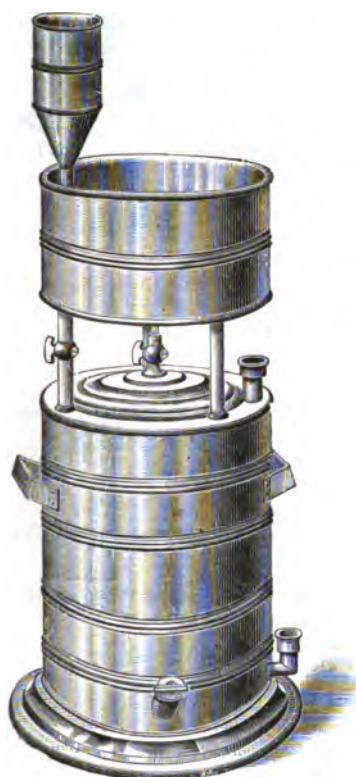
2101	Gas Absorption Tube, Bunsen's. With bulb, graduated	\$1.25
2102	Gas Absorption Tube, Babo's. Filled with glass beads	1.25
2103	Gas Absorption Tube, Emmerling's. Filled with glass beads	1.50
2104	Gas Generator, consisting of flask, funnel tube and delivery tube. Pint size. ....	.60
2104a	Gas Generator, as above with tubes ground into neck. Pint size.....	1.00
2105	Gas Generator, consisting of generating bottle, funnel tube, lead basket and delivery tube with pinchcock. Quart size.....	2.00

See also Gas Generators, page 213.

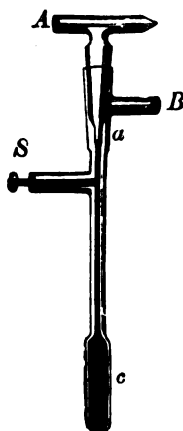
2106 Gas Bags, of best rubber, oval.

Capacity	1	2	3	5 gal.
Each	\$1.25	1.75	2.00	2.75

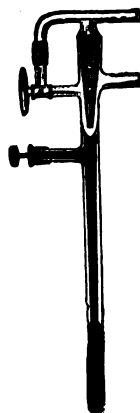
2106a	Brass Nozzle and Stopcock, for each	1.25
2107	Gas Holder, Berzelius'. Entirely of glass, capacity 1 gal	9.00
2108	Gas Holder, Mitscherlich's. Of glass with brass fittings, capacity 3 gal...	20.00



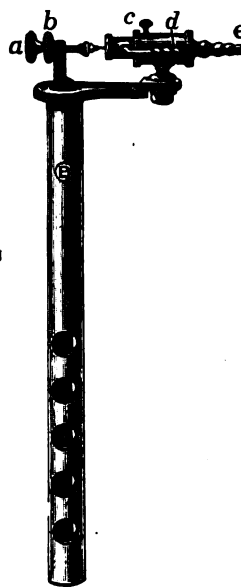
2109



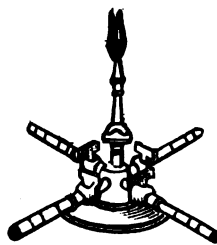
2110



2111



2111a



2112



2113

No.		
2109	Gas Holder, Pepy's. Of heavy zinc, improved form, capacity 10 gal.....	\$20.00
2110	Gas Regulator, Reichert's.....	2.50
2111	Gas Regulator, Reichert's. With stopcock	4.00
2111a	Gas Regulator, according to Roux, without the use of mercury or glass in its construction. Made in 2 sizes; small, 10 in., \$8.00; large, 12 in.....	10.00
2112	Gas Distributers. With three stopcocks and center light.....	4.00
2113	Gas Collecting Tubes. With stopcock at each end, capacity about 250 cc.	3.00



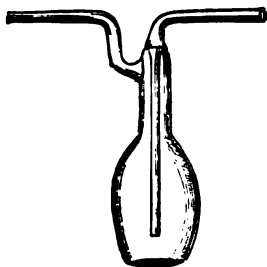
2114



2115



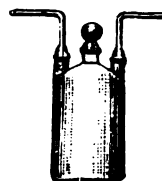
2116



2117



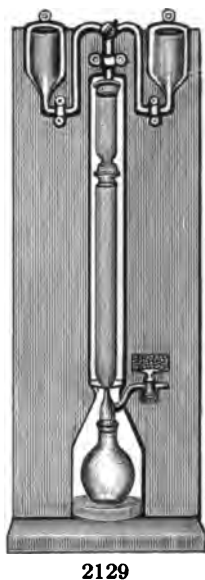
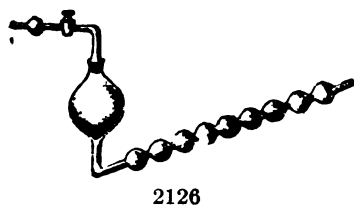
2118



2119

No.

2114	Gas Collecting Tubes. With bulb and stopcock at each end.....	\$3.00
2115	Gas Washing Bottles, Allihn's. 500 cc.	1.75
2116	Gas Washing Bottles, Bunsen's. With tube and rubber connections.	
	Size 7 9 in.	
	Each \$0.60 .75	
2117	Gas Washing Bottles, Cloez'.	
	Capacity 8 16 oz.	
	Each \$1.00 1.25	
2118	Gas Washing Bottles, Drechsel's, with tubes ground into neck.	
	Capacity 8 16 oz.	
	Each \$1.00 1.25	
2119	Gas Washing Bottles, with two tubes ground into neck, and glass stopper.	
	Capacity 125 250 500 grms.	
	Each \$1.00 1.25 1.50	

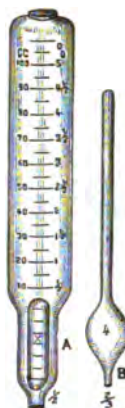


H. IRON AND STEEL ANALYSIS.

No.		
2121	Dudley's Apparatus. For determination of sulphur in iron and steel by bromine method	\$3.50
2122	Same with improved bromine holder	6.00
2123	Bubble Tubes for above apparatus .....	.50
2124	Dudley's Complete Sulphur Determination Apparatus. With support and clamps	14.00
2125	Same as above, glass parts only	10.00
2125a	Goetz' Tube, for phosphorous determination	1.25
2126	Meyer's Sulphur Determination Apparatus	2.75
2127	Norris' Sulphur Determination Apparatus. Either to be used for Eliot's iodine, or Brown's potassium permanganate method.....	2.25
2128	Uehling's Manganese Determination Apparatus	5.00
2129	Jones' Reductor, complete on stand	20.00
2130	Wiborgh's Apparatus, for rapid sulphur determination.....	5.00
	Normal Color Scale	5.00
	Prepared Linens, per box of 100	3.00



2131



2132



2133

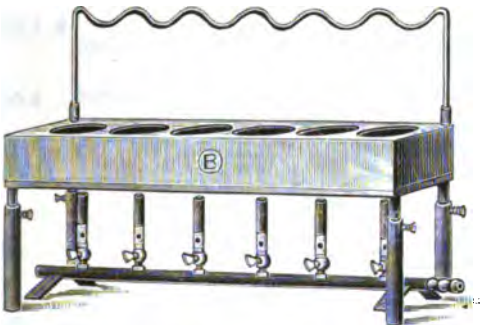
I. MILK ANALYSIS.

No.

2131	Babcock's Milk Tester. With directions.	
	a. Four-bottle test.....	\$ 8.00
	b. Six-bottle test.....	9.00
	c. Eight-bottle test.....	10.00
	d. Ten-bottle test.....	12.00
Note: —With each machine is included a full set of milk bottles, one skim milk bottle, pipette, acid measure and acid.		
2132	Lactoscope, Feser's. Put up in fine case, with directions.....	3.50
2133	Pioscope, Heeren's. Testing by color of the milk, with directions.....	.50
2134	Milk Absorbing Paper, Adams. Absolutely fat free, in strips 6.5x56 ctm., 50 in a package.....	1.75
2135	Hofmeister's Dishes; for evaporating, of very thin glass.....	Doz. 1.25
2135a	Cream Tubes. Giving direct percentage of cream.....	.50
2136	Creamometer, Chevalier's. Giving direct percentage of cream, with red lines.....	1.00
2137	Lactobutyrometer, Marchand's. On foot.....	1.00
2138	Lactobutyrometer, Soxhlet's. For the areometric determination of fat in milk, complete with two lactometers, instructions and tables.....	30.00
2139	Holt's Apparatus for testing human milk.....	2.50
	See also Hydrometers for Milk on page 163.	



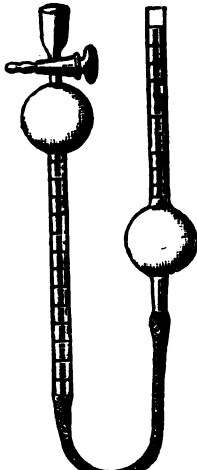
2141



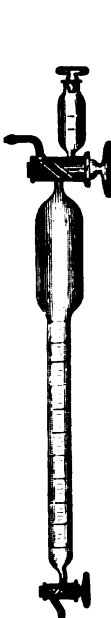
2142



2143



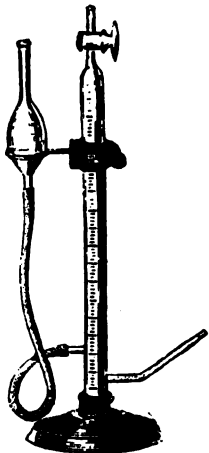
2148



2147



2147a



2149

J. NITROGEN DETERMINATION.

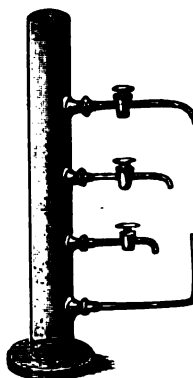
No.		
2141	Kjeldahl's Condensers. Of copper, tin-lined, 6 coils of pure block tin.....	\$25.00
2142	Kjeldahl's Digesting Shelf. Square, with 6 burners and stopcock.....	18.00
2143	Kjeldahl's Connecting Bulb Tubes	Each .40
2144	Kjeldahl's Digesting Flasks. Capacity 6 oz.....	Each \$0.30; doz. 3.00
2145	Kjeldahl's Distilling Flasks. Capacity 16 oz.....	Each .30; doz. 3.00
2146	Bunte's Nitrometer. 100 cc. 1-5.....	6.00
2147	Bunte's Nitrometer. Improved form	7.50
2147a	Franke's Nitrometer	8.00
2148	Lunge's Nitrometer. For determination of nitrogen in saltpetre, nitro-glycerine, etc.; graduated 50 cc. in 1-10°, without support.....	6.00
2149	Schiff's Nitrometer, complete as per sketch	6.00
2150	Horn's Nitrometer. For determining N in gunpowder, with leveling tube..	7.50



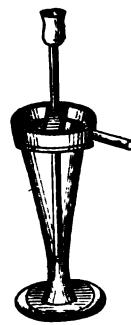
2152



2153



2157



2160

K. SPECIFIC GRAVITY DETERMINATION.

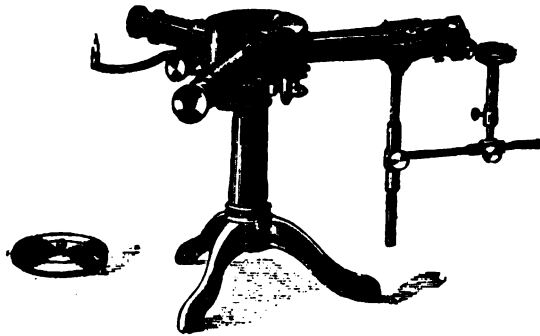
No.		
2151	Bunsen's, for gases	\$ 1.50
2152	Chancel's, for gases	4.00
2153	Greiner's, for liquids and solids	5.00
2154	Nicols', for liquids .....	.50
2155	Nicols', for solids .....	.60
2156	Schumann's, for cement	2.50

L. SOIL ANALYSIS.

2157	Knop's, cylinder with stopcocks	12.00
2158	Noebel's, complete on stand	10.00
2159	Noebel's, the four glass parts only	4.00
2160	Schultz', conical form	2.50



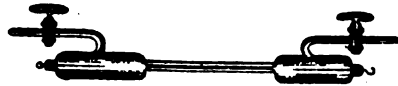
2163



2164



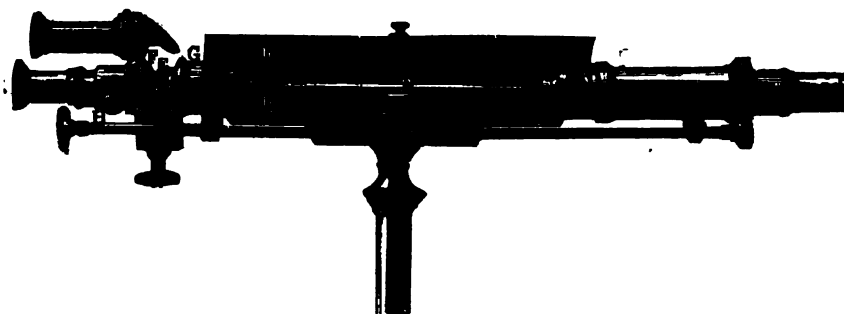
2167



2168

M. SPECTRUM ANALYSIS.

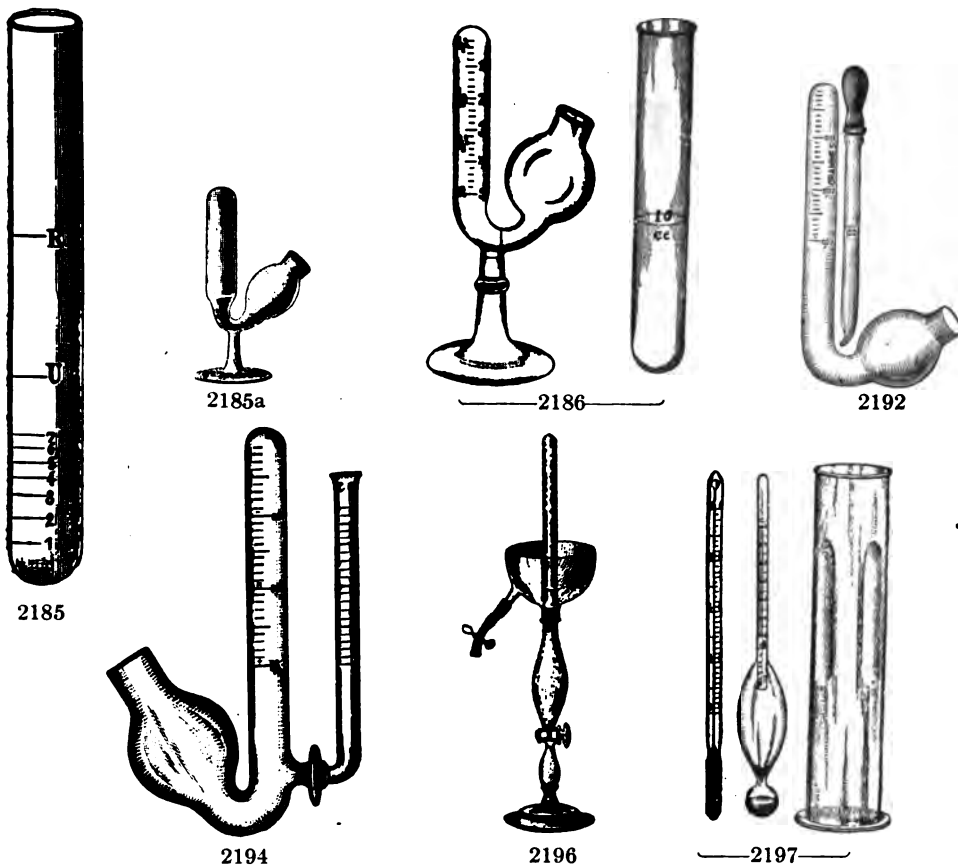
No.		
2161	Spectroscope, pocket instrument, with adjustable slit	\$ 14.00
2162	Spectroscope, as above, with comparison prism.	20.00
2163	Spectroscope, for schools, with flint glass prism of 60° fixed to a brass plate. The telescope has an aperture of 20 mm., 143 mm. focal distance, magnifying power five times. The collimeter has the same dimen- sions and micrometer screw, dispersion 4°. Complete with scale tube and comparison prism	50.00
2164	Spectroscope, Kirchhoff-Bunsen's, with covered flint glass prism, two tele- scopes of 22 mm. aperture and 182 mm. focus; scale tube, adjustable slit and comparison prism; observation telescope movable by mi- crometer screw. Complete with universal holder, as shown in sketch	100.00
	Larger spectroscopes quoted on application.	
2165	Spectrum Bottles, with parallel sides, stoppered, 25x8 mm., capacity 2 cc. each. . . . .	.40
2166	Spectrum Bottles, square, long shape, ground edges. Length 5 10 15 cm. Each \$0.50 .60 .70	
2167	Spectrum Tubes, filled with gases.	2.00
2168	Spectrum Tubes, with two stopcocks, for self-filling.	3.50
2169	Spectrum Charts, small, plain. . . . .	.40
2169a	Spectrum Charts, small, colored . . . . .	.75
2170	Spectrum Charts, large.	3.00



2171

No.					
2171	Polariscope, Schmidt & Haensch's, half shade, of latest construction, with new reading arrangement and protecting cap for the wedge compensation on tripod stand.				
	(a) For 100 and 200 mm. tubes.				\$190.00
	(b) For 100, 200 and 400 mm. tubes.				210.00
2172	Polariscope, with triple field of vision, instead of half shade, additional.				
2173	Polariscope, Schmidt & Haensch's, half shade, with double quartz compensation, of latest construction, with Lippich's polarizer, new reading arrangement and protecting cap for the wedge compensation, on tripod stand.				
	(a) For 100 and 200 mm. tubes.				270.00
	(b) For 100, 200 and 400 mm. tubes.				290.00
2174	Polariscope, with triple field of vision, instead of half shade, additional.				
	N. B.—Instead of the tripod stand we furnish the above instruments also on trestle stand (Bockstativ) at an additional cost of				
					20.00
2175	Polariscope Lamp, for gas, nickel-plated, with argand burner.				
2176	Polariscope Lamp, for kerosene, nickel-plated, with round burner.				
2177	Polariscope Lamp, for kerosene, double burner, after Hink.				
2178	Polarization Tubes, of glass, mounted.				
	Size	50	100	200	400 mm. long.
	Each	\$3.00	3.25	3.50	4.00
2179	Polarization Tubes, of glass, new style, with enlargement at end to receive the air bubbles.				
	Size	50	100	200	400 mm. long.
	Each	\$3.25	3.50	3.75	4.00
2179a	Polarization Tubes, of metal, mounted and nickel-plated.				
	Size	50	100	200	400 mm. long.
	Each	\$3.25	3.50	3.75	4.00
2180	Polarization Tubes, Pellet's, for continuous flow of metal.				
	Size	100	200	400 mm. long.	
	Each	\$7.50	8.00	8.50	
2181	Inversion Tube, of glass, with water jacket of brass.				
	200 mm. long.				7.25
	Thermometer for same.				2.50
2182	Glass Covers, for above tubes. (a) domestic, doz. \$1.00; (b) imported, doz.				
2183	Rubber Washers, for above tubes Doz.				
2184	Quartz Testing Plates, for adjusting the polariscope, about 50° or 100°, mounted.				
					10.00

For other accessories, used in cane and beet sugar analysis, such as flasks, hydrometers, pipettes, etc., see in first part of catalogue under their respective headings, or write for our special list.



O. URINE ANALYSIS.

No.		
2185	Albumenometer, Esbach's. For estimation of albumen in urine.....	\$0.75
2185a	Fermentation Tubes, Smith's, 5 in. high, ungraduated. ....	.30
2186	Saccharometer, Einhorn's. For estimation of sugar in urine, complete with marked test tube.....	.75
2187	Saccharometer, Einhorn's. Set of two with graduated test tubes, in box...	1.50
2188	Urea Apparatus, Marshall's. For estimation of urea in urine	3.00
2190	Urea Apparatus, Squibb's. For estimation of urea in urine	3.00
2191	Urea Apparatus, Bartley's. For estimation of urea in urine	1.25
2192	Urea Apparatus, Doremus'. For estimation of urea by action of sodium hypobromite	1.25
2193	Urea Apparatus, same, on glass foot.	1.50
2194	Urea Apparatus, Doremus' improved. The 1 cc. pipette being connected with the ureometer by a stopcock, a much greater accuracy can be obtained	3.00
2195	Urea Apparatus, same, on glass foot	3.50
2196	Urea Apparatus, Huefner's. For determination of nitrogen in urea.	5.00
2197	Urinometer, Squibb's. With thermometer.	2.00
2198	Urinometer, Squibb's. Without thermometer.	1.00
2199	Urinometer, Vogel's. 1.0 to 1.06 on one spindle .....	.60
2200	Urinometer, Vogel's. 1.0 to 1.06 on two spindles..	1.00
2200a	Urinometer, Vogel's. 1.0 to 1.06 with thermometer	1.50

PART III.

- a. OUTFITS FOR ASSAYERS AND PROSPECTORS.
- b. SCHOOL SETS OF CHEMICAL APPARATUS.
- c. COLLECTIONS OF MINERALS, MODELS AND CHARTS.
- d. SCIENTIFIC BOOKS.

No. 4000—

SET OF BLOW PIPE APPARATUS, AS DESCRIBED IN "BROWN'S MANUAL OF ASSAYING."

- | | |
|---------------------------------------------|---------------------------------------------------------------------------------------------------|
| 1 1 Set (3) Porcelain Dishes. | 17 1 Set Moulds and Stamps. |
| 2 1 Diamond Steel Mortar. | 18 1 Pair Nippers. |
| 3 1 Pair Platinum Pointed Forceps. | 19 1 Double Lens. |
| 4 1 Pair Heavy Tip Steel Forceps. | 20 1 Knife. |
| 5 1 Pair Steel Forceps. | 21 1 Dropping Pipette. |
| 6 1 Steel Chisel. | 22 1 Camel Hair Brush. |
| 7 1 Charcoal Borer, Club Shape. | 23 6 Matrasses. |
| 8 1 Charcoal Borer, with Spatula. | 24 1 Glass Alcohol Lamp. |
| 9 1 Pair Scissors. | 25 1 Chamois Skin. |
| 10 1 Platinum Holder, with 6 Wires. | 26 6 Glass Tubes. |
| 11 1 Plattner's Blow Pipe Lamp with Swivel. | 27 ½ Doz. Charcoals. |
| 12 1 Charcoal Saw. | 28 Coal and Ash Trays. |
| 13 1 Matrass Holder. | 29 2 Books Test Papers. |
| 14 1 Plattner's Blow Pipe, nickel-plated. | 30 Frame, with 18 Glass-Stoppered and Labeled Reagent Bottles, containing the following reagents: |
| 15 1 Platinum Tip for same. | |
| 16 1 Steel Hammer with Wire Handle. | |

Test Lead.
Tin.
Phosphorous Salt.
Borax Powder.
Borax Glass.
Boracic Acid, fused.
Boracic Acid, cryst.
Plattner's Flux.
Bismuth Flux.

Carbonate Soda.
Potash Oxalate.
Salt.
Soda Nitrate.
Charcoal.
Bone Ash, sieved.
Bone Ash, washed.
Copper Oxide.
Bisulphate Potash.

Price for complete set, securely packed in neat wooden carrying case, including
A Field Book of Practical Mineralogy for Mining Men and Prospectors, by
G. W. Miller, E.M., C.E. Net **\$30.00**

No. 4010—

PROSPECTORS' BLOW PIPE OUTFIT No. 1.

1 Jewelers' Blow Pipe, nickel-plated.	1 Piece Iron Wire.
1 Alcohol Lamp.	Platinum Wire and Holder.
1 Magnifying Lens, double.	3 Carbon Sticks.
1 Porcelain Mortar, 2½ in.	1 Pkg. Filter Paper.
2 Porcelain Crucibles.	2 Drs. Ferrous Sulphate.
2 Porcelain Crucible Covers.	2 Drs. Borax Glass.
1 Funnel, Glass, 2-in.	2 Drs. Oxalic Acid.
1 Doz. Test Tubes, 3-in.	2 Drs. Sodium Carbonate, dry.
1 Doz. Glass Tubes and Rods, assorted.	1 Oz. Sulphuric Acid, c.p. conct.
3 Small Beakers, 0 to 000.	1 Oz. Muriatic Acid, c.p. conct.
1 Pair Slag Forceps.	¼ Lb. Nitric Acid, c.p. conct.
1 Spatula, 3-in.	¼ Lb. Ammonia, strong.
1 Piece Sheet Zinc.	4 Ozs. Alcohol.
1 Piece Copper Wire.	2 Ozs. Mercury.
1 Piece Tin Foil.	2 Ozs. Granulated Lead.
1 Chamois Skin.	2 Drs. Carbonate Potash.
1 H. S. Magnet, 3-in.	

Packed in fine wooden carrying case with metal handle	\$10.00
Cornwall's Blow Pipe Analysis, extra	2.50

The above is a cheap, condensed list of Apparatus and Chemicals for practical work.

Cornwall's Blow Pipe Analysis will be found a satisfactory guide in making blow pipe tests.

No. 4020—

PROSPECTORS' BLOW PIPE OUTFIT No. 2.

1 Dr. Potash Bisulphate, c.p.	1 Plattner's' Blow Pipe and Platinum Tip.
1 Dr. Copper Oxide, c.p.	1 Alcohol Lamp.
1 Dr. Copper Sulphate.	1 Oil Lamp (Berzelius).
1 Dr. Calcium Carbonate.	1 Pair Platinum Pointed Forceps.
1 Dr. Oxalic Acid.	1 Pocket Magnifying Lens, double.
1 Dr. Silver Nitrate.	1 Agate Mortar, 1½-in.
1 Piece Silver Foil, c.p.	2 Porcelain Dishes.
1 Piece Tin Foil, c. p.	2 Glass Funnels.
1 Piece Copper Foil, c. p.	1 Doz. Test Tubes.
1 Piece Copper Wire.	1 Doz. Glass Tubes and Rods
1 Piece Zinc Sheet.	3 Small Beakers.
1 Piece Magnesium Ribbon.	1 Bone Spoon.
1 Spool Iron Wire, pure.	1 Pair Forceps.
2 Books Litmus Paper.	1 Magnet, 3-in.
1 Sheet Turmeric Paper.	1 Hammer.
2 Ozs. Muriatic Acid, c. p., conct.	1 Anvil.
¼ Lb. Nitric Acid, c. p., conct.	Platinum Wire and Holder.
2 Ozs. Sulphuric Acid, c. p., conct.	2 Drs. Sodium Carbonate, dry, c. p.
2 Ozs. Ammonia, conct.	2 Drs. Borax Glass.
2 Ozs. Mercury.	2 Drs. Microcosmic Salt, c. p..
¼ Lb. Bone Ash.	2 Drs. Lead, Finely Powdered, c. p.
½ Pt. Alcohol.	2 Drs. Lead Flux.

Apparatus and chemicals for field work, securely packed in convenient portable case of polished hard wood	\$20.00
-----------------------------------------------------------------------------------------------------------------	----------------

No. 4030—

ASSAY OUTFIT FOR MINE.

- | | |
|---------------------------------------------------------|--------------------------------------|
| 1 Button Balance. | 2 Sieves, 60 and 80-Mesh. |
| 1 Pulp Balance. | 3 Clay Triangles. |
| 1 Set Gramme Weights, 50-Gramme to 1-10 Milligramme. | 1 Tripod. |
| 1 Set Assay Ton Weights, 1 Assay Ton to 1-20 Assay Ton. | 2 Slag Hammers. |
| 1 Bosworth Furnace, | 1 Sampler and Scoop. |
| or, | 1 Plattner's Blow Pipe. |
| 1 Case Gasoline Furnace with Blow Pipe Tank. | 2 Spatulas. |
| 6 9x15 Muffles. | 1 3-Ring Stand. |
| 1 Doz. Annealing Cups. | 1 Burette Stand. |
| 1000 2½-in. Scorifiers. | 1 Funnel Stand. |
| 400 Crucibles, 10-gramme. | 5 Grammes Platinum Foil and Wire. |
| 1 Case Crusher. | 1 Diamond Mortar. |
| 1 Buckboard and Muller. | 1 6-Burner Alcohol Lamp. |
| 1 Pair Scorifier Tongs. | 1 4-Oz. Glass Lamp. |
| 1 Pair Crucible Tongs. | 2 Nest Beakers, Nos. 1 to 6. |
| 1 Pair Cupel Tongs. | ½ Doz. Beaker Covers. |
| 2 12-hole Scorifier Moulds. | ½ Doz. Copper Flasks. |
| 1 25-hole Scorifier Mould. | ½ Doz. Parting Flasks. |
| 1 3-hole Crucible Mould. | 2 Wash Bottles complete. |
| 1 1½-in. Cupel Mould. | 1 ½-Litre Flask. |
| 1 Pair Slag Forceps. | 1 Lb. Glass Tubing. |
| 1 Pair Button Pliers. | ½ Doz. Funnels. |
| 1 Magnifying Lens. | 2 Packs Filter Paper. |
| 1 Pipette, 25 cc. | 1 Lead Measure. |
| 1 Cylinder, 50 cc., graduated. | 1 Graduate, 4-oz. |
| 1 Burette, G. S., 50 cc. in 1-10ths. | 1 Test Tube Rack. |
| 1 Color Plate. | 1 Doz. Test Tubes. |
| 12 Ft. Rubber Tubing. | 1 Set Reagent Bottles. |
| ½ Doz. Evaporating Dishes. | 100 Lbs. Granulated Lead, c. p. |
| ½ Doz. Casseroles. | 25 Lbs. Lead Flux. |
| ½ Doz. Porcelain Crucibles, No. 8. | 10 Lbs. Soda Bicarbonate. |
| 1 Camel's Hair Brush. | 100 Lbs. Bone Ash. |
| 3 Camel's Hair Pencils. | 25 Lbs. Litharge. |
| 1 Buckboard Brush. | 5 Lbs. Borax Glass. |
| ½ Doz. 5-in. Sand Baths. | 5 Lbs. Argols. |
| 1 Copper Water Bath. | 1 Lb. Rolled Lead. |
| 1 Anvil Slagging. | 1 Oz. Silver Foil, c. p. |
| 1 Dangler Lamp (Gasoline). | 4 Lbs. Ammonia Water, strong. |
| 1 Mortar, Wedgewood. | 9 Lbs. Acid Sulphuric, c. p., conct. |
| 1 Magnet, 5 in. | 7 Lbs. Acid Nitric, c. p., conct. |
| 1 Set Cork Borers. | 12 Lbs. Acid Muriatic, c. p., conct. |
| | ½ Lb. Cyanide Potash, pure. |
| | 3 Sheets Copper Foil, c. p. |
| | 1 Box Blank Labels, gummed. |

The above list may not suit your requirements in all respects, but is as near as we can estimate, in a general way, and will serve as a memorandum in making up a more suitable list, as, in many cases different balances, furnaces, crucibles, etc., are desired. In the latter case we would be pleased to have customers make up revised lists, designating all articles changed by catalogue numbers, and submit same to us for net quotation. The outfit, as above, weighs complete packed for shipment about 1,750 lbs.

We furnish the above list of apparatus and chemicals, with the Bosworth furnace, the Ainsworth \$100.00 button balance, and the \$30.00 pulp balance, boxed ready for shipment, for.....\$350.00

With the Bosworth furnace, the Ainsworth best button balance (\$175.00) and pulp balance (\$50 00), and the largest buckboard, the outfit will be delivered, f. o. b. Denver, for..... 450.00

No. 4040—

ASSAY OUTFIT FOR PROSPECTORS.

- | | |
|---------------------------------------------|--------------------------------------|
| 1 Portable Button Balance and Weights. | 3 Funnels. |
| 1 Pulp Balance and Weights. | 1 Pkg. Filter Paper. |
| 1 Furnace ("Burro" or Brown) | 1 Button Brush. |
| or, | 1 Wash Bottle. |
| 1 Case Gasoline Furnace with Blow Pipe Tank | 6 Parting Flasks. |
| 2 Muffles. | 1 Tripod. |
| 200 Scorifiers. | 6 Annealing Cups. |
| 50 Crucibles. | 2 Hammers. |
| 1 Quart Mortar and Pestle (iron). | 4 Lbs. Litharge. |
| 2 Pairs Tongs. | 5 Lbs. Soda Bicarb. |
| 1 Magnifying Lens. | 1 Lb. Argols. |
| 1 Lead Mould. | 1 Lb. Muriatic Acid, c. p. |
| 1 Cupel Mould. | 1 Lb. Nitric Acid, c. p. |
| 1 Magnet. | 10 Lbs. Bone Ash. |
| 3 Pairs Pliers. | 2 Lbs. Borax Glass. |
| 1 Spatula. | $\frac{1}{4}$ Oz. Silver Foil, c. p. |
| Glass Rod and Tubes. | $\frac{1}{4}$ Lb. Rolled Lead, c. p. |
| 1 Glass Alcohol Lamp. | 10 Lbs. Granulated Lead, c. p. |
| 1 Sieve, 60-Mesh. | 1 Pt. Alcohol. |
| 3 Beakers and Covers. | 2 Lbs. Lead Flux. |
| 1 Blow Pipe, Plattner's. | |

The Button Balance and Weights given with this outfit are Cat. No. 214, the Pulp Balance is Cat. No. 271; the Furnace is either the Burro or Brown furnace, Cat. Nos. 935 or 938, and left optional with purchaser. Should different balances or furnaces be wanted, or the outfit in any way changed, please submit us revised list for quotation. The above outfit weighs, packed for shipment, 300 lbs. with Burro furnace, or 350 lbs. with Brown.

Price complete, packed for shipment, f. o. b. Denver. **\$125.00**

Or with one Button Balance and Weights, Catalogue No. 207d, f. o. b. Denver **140.00**

No. 4050—

MEMORANDA OF OUTFIT FOR COPPER ASSAYS BY CYANIDE POTASSIUM METHOD.

- | | |
|-----------------------------------------------------------------------|--------------------------------------------------|
| 1 Pulp Balance. | $\frac{1}{2}$ Doz. 12-Oz. Beakers. |
| 1 Set Gramme Weights, 50-Gramme to 1-10 Milligramme. | 1 Dangler Blast Lamp, gasoline. |
| 2 Pairs Forceps. | 1 8-Oz. Alcohol Lamp, glass. |
| 2 Spatulas. | $\frac{1}{2}$ Lb. Glass Rods and Tubing. |
| 1 $\frac{1}{2}$ -Gal. Iron Mortar. | 2 Burettes, Glass Stopcock, graduated in 1-10th. |
| 1 80-Mesh Sieve. | 1 Burette Float. |
| 1 Doz. Copper Flasks. | 1 3-Ring Stand. |
| $\frac{1}{4}$ Doz. 3 $\frac{1}{2}$ -in. Funnels, Bunsen's. | 2 Funnel Stands, for 4 funnels. |
| $\frac{1}{4}$ Doz. Sand Baths. | 1 Sampler and Scoop. |
| 1 10 cc. Cylinder. | 1 Buckboard and Muller. |
| 4 10 cc. Pipettes. | 6 Lbs. Muriatic Acid, com'l. |
| 1 8-Oz. Graduate. | 7 Lbs. Nitric Acid, com'l. |
| $\frac{1}{2}$ Doz. 8-Oz. Beakers. | 7 Lbs. Nitric Acid, c. p. |
| 9 Lbs. Sulphuric Acid, com'l. | 5 Lbs. Sheet Zinc, cut in strips, com'l. |
| 8 Lbs. Ammonia Water, strong. | 1 Color Plate, porcelain. |
| 1 Lb. Cyanide Potash, pure. | 1 H ₂ S Apparatus, small. |
| 6 Sheets Copper Foil, c. p. | 2 Empty Bottles. |
| 5 Lbs. Alcohol. | 6 Ft. Rubber Tube. |
| 5 Pts. Distilled Water. | 3 Pinchcocks. |
| $\frac{1}{2}$ Doz. Pkgs. Gray Filter Paper, 7-in. | 1 Box Labels, blank. |
| $\frac{1}{2}$ Doz. Pkgs. S. & S. Filter Paper, 18 $\frac{1}{2}$ c. m. | 1 Book Labels, chemical. |
| 1 Lb. Granulated Zinc, pure. | 2 Books Litmus Paper. |
| | $\frac{1}{2}$ Doz. Casseroles, No. 3. |

Battery outfits for copper analysis can be furnished as desired.

CHEMICAL APPARATUS AND CHEMICALS IN SETS.

These Sets of Apparatus are compiled with great care, to include the most desirable instruments, as taught in all the modern school books, avoiding duplications of experiments, and making each as perfect as possible for the cost of the set.

No. 4100—

CHEMICAL SET No. 1. PRICE \$18.00.

2 Ozs. Acid Acetic.	1 Dr. Gun Cotton.
1 Lb. Acid Hydrochloric.	1 Dr. Iodine.
1 Lb. Acid Nitric.	2 Ozs. Galena.
2 Lbs. Acid Sulphuric.	1 Oz. Lead Acetate.
1 Oz. Acid Oxalic.	$\frac{1}{4}$ Oz. Lead Carbonate.
$\frac{1}{4}$ Oz. Acid Tartaric.	2 Drs. Litmus.
2 Ozs. Ammonium Chloride.	2 Ozs. Mercury.
4 Ozs. Ammonium Hydrate.	6 Ins. Magnesium Ribbon.
1 Oz. Ammonium Nitrate.	2 Ozs. Magnesium Sulphate.
1 Oz. Ammonium Sulphide.	1 Lb. Manganese Dioxide.
1 Oz. Animal Charcoal.	1 Ft. Platinum Wire.
$\frac{1}{4}$ Oz. Antimony.	2 Drs. Phosphorus.
$\frac{1}{4}$ Oz. Arsenic Trioxide.	1 Dr. Potassium (metallic).
1 Oz. Alum.	1 Oz. Potassium Bichromate.
8 Ozs. Alcohol Methyl.	2 Ozs. Potassium Chlorate.
1 Oz. Barium Chloride.	2 Ozs. Potassium Ferrocyanide.
1 Oz. Barium Nitrate.	1 Oz. Potassium Hydrate.
2 Ozs. Calcium Carbonate.	1 Oz. Potassium Nitrate.
2 Ozs. Calcium Fluoride.	1 Oz. Strontium Chloride.
4 Ozs. Calcium Sulphate.	1 Oz. Strontium Nitrate.
1 Oz. Carbon Bisulphide.	4 Ozs. Sulphur.
1 Oz. Charcoal.	1 Dr. Silver Nitrate.
2 Ozs. Copper Sulphate.	1 Dr. Sodium (metallic)
2 Ozs. Ether.	1 Oz. Sodium Biborate.
1 Oz. Ferrous Sulphide.	1 Oz. Sodium Carbonate.
2 Ozs. Ferrous Sulphate.	1 Oz. Sodium Sulphate.
$\frac{1}{4}$ Oz. Gall Nuts, powdered.	4 Ozs. Zinc for making Hydrogen

Beakers (nest of 3).
 Blow Pipe.
 Flasks, 8-ozs., Florence.
 Hessian Crucibles (nest of 4).
 Deflagration Spoon.
 Evaporating Dish, 2 ozs.
 Evolution Flask (fitted for making Hydrogen, Carbonic Acid Gas, etc.)
 Filtering Paper, 4-in. circles
 File, 4 in.
 Glass Funnel, 2 ozs.
 Graduate, 50 cc.

Chemical Glass Tubing, $\frac{1}{4}$ lb., $\frac{1}{4}$ in
 Lead Dish.
 Pipette.
 Rubber Tubing.
 Sand Bath.
 Spirit Lamp, 4 ozs.
 Specie Jar for Deflagration, qt.
 Test Tubes.
 Test Tube Holder.
 Test Tube Brush.
 Wedgewood Mortar, 2 $\frac{1}{2}$ in.
 Glass Retort, 4 ozs.

No. 4110—

CHEMICAL SET No. 2. PRICE \$30.00.

¼ Lb. Acid Acetic.	2 Ozs. Lead Monoxide.
1 Lb. Acid Hydrochloric.	2 Drs. Litmus (best cubes).
1 Lb. Acid Nitric.	1½ In. Magnesium Ribbon.
1 Oz. Acid Oxalic.	2 Ozs. Magnesium Sulphate.
2 Lbs. Acid Sulphuric.	1 Lb. Manganese Dioxide.
1 Oz. Acid Tartaric.	2 Ozs. Mercury.
1 Oz. Ammonium Carbonate.	2 Drs. Mercuric Chloride.
2 Ozs. Ammonium Chloride.	2 Drs. Mercuric Oxide.
¼ Lb. Ammonium Hydrate.	1½ In. Platinum Wire.
1 Oz. Ammonium Nitrate.	½ Oz. Phosphorus.
1 Oz. Ammonium Sulphide.	½ Dr. Potassium (metallic).
½ Pt. Alcohol Methyl.	¼ Lb. Potassium Bichromate.
2 Ozs. Alum.	2 Ozs. Potassium Carbonate.
2 Ozs. Animal Charcoal.	½ Lb. Potassium Chlorate.
½ Oz. Antimony.	1 Oz. Potassium Chromate.
1 Oz. Arsenious Anhydride.	½ Oz. Potassium Cyanide.
1 Oz. Barium Chloride.	1 Oz. Potassium Ferricyanide.
1 Oz. Barium Nitrate.	2 Ozs. Potassium Ferrocyanide.
1 Oz. Borax.	1 Oz. Potassium Hydrate.
¼ Lb. Calcium Carbonate.	1 Dr. Potassium Iodide.
2 Ozs. Calcium Chloride.	2 Ozs. Potassium Nitrate.
2 Ozs. Calcium Fluoride.	2 Drs. Potassium Permanganate.
¼ Lb. Calcium Sulphate.	1 Oz. Potassium Sulphate.
1 Oz. Carbon Bisulphide.	1 Dr. Silver Nitrate.
1 Oz. Cobalt Nitrate.	1 Dr. Sodium (metallic).
4 Ozs. Copper Sulphate.	½ Oz. Sodium Acetate.
2 Ozs. Ether.	2 Ozs. Sodium Carbonate.
2 Ozs. Ferrous Sulphate.	1 Oz. Sodium Hydrate.
1 Oz. Ferrous Sulphide.	2 Ozs. Sodium Hyposulphite.
2 Drs. Gall Nuts.	2 Ozs. Sodium Sulphate.
1 Dr. Gun Cotton.	1 Oz. Di-Sodium Phosphate.
1 Dr. Iodine.	1 Oz. Strontium Chloride.
2 Ozs. Galena.	1 Oz. Strontium Nitrate.
1 Oz. Lead Acetate.	¼ Lb. Sulphur.
2 Ozs. Lead Carbonate.	½ Lb. Zinc for Making Hydrogen.

Beakers (nest of 4).
 Jewelers' Blow Pipe.
 5 Hessian Crucibles.
 Chemical Flask.
 Deflagration Spoon.
 Evaporating Dish.
 Evolution Flask, fitted with delivery tube complete, for making Hydrogen, Carbonic Acid Gas, etc.
 File.
 Filtering Paper, 4-in. circles.
 8-Oz. Funnel.
 2-Oz. Funnel.
 Graduate, 50 cc.
 ½ Lb. Assorted Glass Tubing.
 1 Gal. Gas-bag and Stopcock.

Lead Dish for Hydrofluoric Acid.
 Pneumatic Trough, 4x7x10.
 Pipette.
 Retort, 4-oz. Glass.
 Retort Stand (iron rings).
 Rubber Tubing.
 Sand Bath.
 Scales and Weights, pocket, 6-in. beam.
 Spirit Lamp.
 Specie Jar for Deflagration, 2 qt.
 1 Doz. Test Tubes.
 Test Tube Holder.
 Test Tube Cleaner.
 Wire Gauge, 4x4.
 Wedgewood Mortar Pestle, 3-in.

No. 4120—

CHEMICAL SET No. 3. PRICE \$65.00.

1 Lb. Acid Acetic.	1 Oz. Litmus (best cubes).
$\frac{1}{2}$ Lb. Acid Boracic.	2 Ozs. Logwood.
2 Ozs. Acid Citric.	12 In. Magnesium Ribbon.
2 Lbs. Acid Hydrochloric.	2 Ozs. Magnesium Chloride.
2 Lbs. Acid Nitric.	1 Lb. Magnesium Sulphate.
1 Lb. Acid Oxalic.	2 Lbs. Manganese Dioxide.
1 Oz. Acid Phosphoric.	1 Oz. Mercuric Chloride.
4 Lbs. Acid Sulphuric.	4 Ozs. Mercury.
$\frac{1}{2}$ Lb. Acid Tartaric.	1 Oz. Microcosmic Salt.
1 Qt. Alcohol Methylic.	$\frac{1}{2}$ Lb. Paraffine.
1 Lb. Alum Alumina et Ammoni Sulph.	12 In. Platinum Wire.
1 Pt. Aqua Ammonia.	1 Platinum Sponge.
$\frac{1}{2}$ Lb. Ammonium Carbonate.	1 Oz. Phosphorus.
1 Lb. Ammonium Chloride.	4 Ozs. Plumbago.
1 Oz. Ammonium Molybdate	1 Dr. Potassium (metallic).
$\frac{1}{2}$ Lb. Ammonium Nitrate.	1 Lb. Potassium Bichromate (red).
1 Oz. Ammonium Oxalate.	$\frac{1}{2}$ Lb. Potassium Carbonate.
1 Lb. Ammonium Sulphate.	1 Lb. Potassium Chlorate.
2 Ozs. Ammonium Sulphide.	2 Ozs. Potassium Chromate (yellow).
$\frac{1}{2}$ Dr. Aniline.	1 Oz. Potassium Cyanide.
1 Lb. Animal Charcoal.	1 Oz. Potassium Ferricyanide.
1 Oz. Antimony (metallic).	$\frac{1}{2}$ Lb. Potassium Ferrocyanide.
2 Ozs. Antimony Sulphide.	2 Ozs. Potassium Hydrate (sticks).
$\frac{1}{2}$ Oz. Arsenicum (metallic).	2 Drs. Potassium Iodide.
$\frac{1}{2}$ Lb. Arsenious Anhydride.	$\frac{1}{2}$ Lb. Potassium Nitrate.
1 Oz. Asbestos.	1 Oz. Potassium Permanganate.
2 Ozs. Barium Carbonate.	4 Ozs. Potassium Silicate.
$\frac{1}{2}$ Lb. Barium Chloride.	$\frac{1}{2}$ Lb. Potassium Sulphate.
$\frac{1}{2}$ Lb. Barium Nitrate.	2 Drs. Potassium Sulphocyanide.
1 Lb. Barium Sulphate.	1 Oz. Potassium Bitartrate.
$\frac{1}{2}$ Oz. Bismuth.	1 Dr. Silver Nitrate.
$\frac{1}{2}$ Lb. Bone Ash.	2 Drs. Sodium (metallic).
$\frac{1}{2}$ Lb. Calcium Carbonate.	1 Oz. Sodium Acetate.
1 Lb. Calcium Chloride.	$\frac{1}{2}$ Lb. Sodium Biborate.
1 Lb. Calcium Fluoride.	1 Oz. Sodium Bromide.
1 Lb. Calcium Sulphate.	1 Lb. Sodium Bicarbonate.
2 Ozs. Carbon Bisulphide.	2 Lbs. Sodium Carbonate.
$\frac{1}{2}$ Lb. Charcoal.	1 Lb. Sodium Hydrate.
2 Ozs. Cobalt Chloride.	2 Lbs. Sodium Hyposulphite.
2 Ozs. Cobalt Nitrate.	1 Lb. Sodium Nitrate.
4 Ozs. Copper Turnings.	$\frac{1}{2}$ Lb. Sodium Phosphate.
1 Oz. Copper Nitrate.	1 Lb. Sodium Silicate.
1 Lb. Copper Sulphate.	1 Lb. Sodium Sulphate.
$\frac{1}{4}$ Pt. Ether.	$\frac{1}{2}$ Lb. Strontium Carbonate.
2 Ozs. Ferric Chloride.	$\frac{1}{2}$ Lb. Strontium Chloride.
1 Lb. Ferrous Sulphate.	$\frac{1}{2}$ Lb. Strontium Nitrate.
$\frac{1}{2}$ Lb. Ferrous Sulphide.	2 Ozs. Di-Sodium Phosphate.
1 Oz. Gall Nuts.	2 Lbs. Sulphur.
1 Dr. Gun Cotton.	$\frac{1}{2}$ Lb. Tin (metallic).
1 Oz. Indigo.	1 Oz. Tin Proto Chloride.
$\frac{1}{2}$ Lb. Iron Filings.	1 Pt. Turpentine.
2 Ozs. Galena.	1 Lb. Zinc, Mossy, for making Hydrogen.
$\frac{1}{2}$ Lb. Lead Acetate.	1 Lb. Zinc Carbonate.
1 Lb. Lead Carbonate.	$\frac{1}{2}$ Lb. Zinc Oxide.
$\frac{1}{2}$ Lb. Lead Nitrate.	1 Lb. Zinc Sulphate.
1 Lb. Lead Protoxide.	

CHEMICAL SET No. 3.—Continued.

Alcohol Lamp.	1-Gal. Gas Bag with Brass Stopcock.
1 Lb. Assorted Glass Tubing.	Hydrometer for taking specific gravity.
2 Doz. Assorted Test Tubes.	Jar for Hydrometer.
2 Doz. Assorted Corks.	Lead Dish for Hydrofluoric Acid.
Nest of 3 Beakers, 3 to 16 oz.	Pipette.
Brass Blow Pipe.	Pneumatic Trough, 4x7x10.
Set of 3 Brass Cork Borers.	1 Pt. Retort.
Cork Screw.	Receiver for Retort.
2 Nests of 5 Hessian Crucibles.	Iron Retort Stand.
1 Pair Crucible Tongs.	Rubber Tubing for Gas Connection.
1 Pt. Chemical Flask.	Reduction Tube for Reducing Metallic Oxides.
2 4-Oz. Chemical Flasks.	Polished Steel Spatula.
Chemical Thermometer.	3 Glass Stirring Rods.
Balance and Weights.	Sand Bath.
Brass Deflagrating Spoon.	2 Specie Jars for Collecting Gases and for
1 2-Oz. Evaporating Dish.	Deflagration.
1 6-Oz. Evaporating Dish.	Test Glass.
Evolution Flask with Funnel and Delivery	Test Tube Rack.
Tubes for Making Hydrogen, etc.	Test Tube Holder.
Triangular File.	Test Tube Cleaner.
Round File.	Watch Spring for Burning in Oxygen.
1 Pkg. of 100 Cut Filters.	2 Safety Tubes, Thistle Top.
1 Pt. Glass Funnel.	Iron Wire Gauze.
1 4-Oz. Glass Funnel.	Woulff Bottle with 3 Necks, pt.
Metric Graduate Glass, 100 cc.	4-In. Wedgewood Mortar and Pestle.
1 Set (24) Reagent Bottles.	

No. 4130—

A SUGGESTIVE SET OF APPARATUS REQUIRED FOR 12 STUDENTS IN CHEMISTRY.

2 Graduated Cylinders, 25 cc	\$0.90
12 Doz. Assorted Test Tubes	3.50
12 Side Neck Test Tubes, 6-in .....	.85
12 Ignition Tubes, Test Tube Form, 6-in.....	1.50
1 3½-In. Wedgewood Mortar and Pestle.....	.55
1 Pt. Iron Mortar and Pestle .....	.45
12 Test Tube Racks for 13 Tubes	7.25
12 Retort Stands, 3 Rings	7.20
3 Universal Clamps for Retort Stands	3.90
12 2-Oz. Flasks	1.20
12 4-Oz. Flasks	1.44
12 8-Oz. Flasks	2.16
6 16-Oz. Flasks	1.50
6 4-Oz. Stoppered Retorts	1.80
3 8-Oz. Stoppered Retorts	1.20
1 Lb. Assorted Soft Rubber Stoppers	3.00
12 (a) 4-Oz. Alcohol Lamps	4.80
12 (b) Bunsen Burners	4.80
1 (c) Laboratory Lamp (Dangler)	5.00
1 (d) Low Temperature Burner with Blast Pipe	2.75
1 (e) No. 9 Foot Blower	4.00
(d) and (e) will not be needed where there is no gas.	
(a) and (c) may be omitted where there is gas.	

STUDENTS' SET.—Continued.

12 2-Oz. Funnels	\$1.15
6 4-Oz. Funnels .....	.80
6 8-Oz. Funnels	1.20
12 Plain Forceps, 5 inches	2.40
12 Porcelain Evaporating Dishes, 4 ozs.	3.00
3 Porcelain Evaporating Dishes, 8 ozs	1.05
12 Pinchcocks, medium	2.40
2 Lbs. Assorted Glass Tubing, best	1.20
20 Ft. Assorted Rubber Tubing, first 4 sizes	2.00
3 Chemical Thermometers, Centigrade	6.00
3 Three-cornered Files .....	.45
12 Pkgs. 5-in. Filter Paper (100 sheets each)	2.16
1 Army Prescription Balance	4.50
1 Set Metric Weights, 100 Grammes to 1 cg.	3.00
1 Gross Assorted Corks, XX Quality	1.50
24 Beakers, 3 ozs.	3.60
24 Beakers, 4 ozs.	4.08
12 Beakers, 6 ozs.	2.16
3 Beakers, pt .....	.90
3 Beakers, qt	1.35
12 Pieces Wire Gauze, 4x4 .....	.60
1 Set Cork Borers	1.60
12 Set Reagent Bottles, 6 in set, selected from No. 543	Net 10.80
1 Set Reagent Bottles, 40 in set	Net 6.00
6 Funnel Tubes	1.20
6 Plain Burettes, 25 cc. 1-10	6.00
6 Common Blow Pipes	1.20
3 Pair Nippers, 8-in. (crucibles tongs)	1.50
1 6-in. Copper Constant Level Water Bath	3.00
12 Test Tube Brushes .....	.60
12 Test Tube Holders	1.80
3 4-Oz. Stoppered Receivers	1.20
12 Stirring Rods .....	.60
12 2-In. Watch Glasses .....	.25
6 Plain Pipettes .....	.90
6 Wash Bottles, pt	4.50
24 Sheets Litmus Paper	1.44
6 Sq. In. Platinum Foil, approximate	3.00
2 Ft. No. 25 Platinum Wire, approximate	1.20
6 Sand Baths	1.20

COLLECTION OF MINERALS AND CRYSTAL MODELS.

No.		
4200	Blow Pipe Collection.	
	25 specimens, in hardwood case.....	\$ 1.00
	50 specimens, in hardwood case	2.00
	100 specimens, in hardwood case	5.00
	200 specimens, in hardwood case	10.00
4210	Scale of Fusibility.	
	(a) 1, Stibnite; 2, Natrolite; 3, Almandite; 4, Actinolite; 5, Orthoclase; 6, Bronzite. In improved pasteboard trays	1.50
	(b) Large specimens, mounted on black walnut blocks	3.50
4220	Scale of Hardness.	
	(a) 1, Talc; 2, Gypsum; 3, Calcite; 4, Fluorite; 5, Apatite; 6, Orthoclase; 7, Quartz; 8, Topaz; 9, Corundum; 10, Diamond. With streak plate and file. Improved trays.....	7.00
	(b) Same, but smaller specimens, in hardwood case	2.50
	(c) Same as foregoing, without diamond.....	1.25
4230	Specific Gravity.	
	25 specimens, in neat hardwood case	9.00
4240	Structure and Form, results of imperfect crystallization.	
	1, Columnar; 2, Fibrous; 3, Radiated; 4, Reticulated; 5, Lamellar; 6, Coarse Granular; 7, Fine Granular; 8, Compact; 9, Botryoidal; 10, Mammillary; 11, Stalactitic; 12, Coralloidal; 13, Concretionary; 14, Capillary; 15, Acicular; 16, Amorphous. In pasteboard trays	7.00
	Large specimens, mounted on black walnut blocks	14.00
4250	Cleavage.	
	1, Cubic; 2, Octahedral; 3, Rhombohedral; 4, Basal; 5, Prismatic. Large specimens, mounted on black walnut blocks.....	1.50
4260	Fracture.	
	1, Even; 2, Uneven; 3, Conchoidal; 4, Sub-Conchoidal; 5, Splintery; 6, Hackly. Large specimens, mounted on black walnut blocks.	3.50
4270	Tenacity.	
	1, Brittle; 2, Sectile; 3, Malleable; 4, Flexible; 5, Elastic. Large specimens, mounted on black walnut blocks.....	3.00
4280	Luster.	
	(a) Kinds of Luster—1, Metallic; 2, Sub-Metallic; 3, Adamantine; 4, Vitreous; 5, Sub-Vitreous; 6, Resinous; 7, Greasy; 8, Pearly; 9, Metallic-Pearly or Metalloid; 10, Silky; 11, Dull, without luster. (b) Degrees of Intensity of Luster—12, Splendent; 13, Shining; 14, Glistening; 15, Glimmering. Large specimens, mounted on black walnut blocks.....	9.00
	(b) Same, but specimens smaller and in improved pasteboard trays.	4.50
4290	Color.	
	(a) 25 of the most important specimens mounted on black walnut blocks.....	13.50
	(b) 56 large specimens, illustrating the metallic and non-metallic colors, mounted on black walnut blocks	30.00
	(c) Same as foregoing, but smaller specimens and in improved pasteboard trays	16.00

No.

4300	Diaphaneity. 1, Transparent; 2, Semi-Transparent; 3, Translucent; 4, Sub-Translucent; 5, Opaque. Large Specimens, mounted on black walnut blocks	\$3.00
4310	Ores and Metallic Minerals. 25 specimens, only the common metals, averaging $\frac{1}{2}$ -inch, in case .. 25 specimens, larger size, printed labels, in improved pasteboard trays. 50 specimens, illustrating ores of both the common and rare metals, in improved pasteboard trays	1.25 3.00 12.00
4320	Ores of the Rarer Metals. 15 specimens	4.00
	25 specimens	8.50
4330	Gold and Silver Ores. 15 specimens	12.00
4340	Copper Ores. 15 specimens	3.00
	25 specimens	7.00
4350	Iron Ores and Minerals. 25 specimens	2.50
	50 specimens	8.50
4360	Lead Ores and Minerals. 15 specimens	4.00
	25 specimens	12.00
4370	Zinc Ores and Minerals. 15 specimens	4.00
4400	Crystal Models, of Celluloid. A new and most excellent invention is this set of six crystal models. They are made of transparent celluloid and average 4 inches longest diameter. They exhibit the six different systems of crystallization, and show various derivative forms by means of internal crystals, also of celluloid. The axes of the crystals are shown by various colored silk threads, the same axis by the same color, different axes by different colors. Set of six in well made case	16.00
4410	Crystal Models, of Hard Wood. 108 models, with reference list, in box	30.00
4420	Crystal Models, of Glass. 21 cut glass models, showing the crystallographic forms and natural colors, of uncut gems, in case	18.00
4430	Crystal Models in Plaster. 100 white models	20.00
	50 colored faced models, mounted in brass holders and again on hardwood blocks, label giving name of minerals and crystallographic formula	20.00
	100 colored faced models	35.00
	200 colored faced models	75.00

SCIENTIFIC BOOKS.

We give herewith a revised list of scientific books, nearly all of which we carry in stock. We have, on all of the various subjects, tried to select only the best and most up-to-date works, in both elementary and advanced. Nearly all publications, formerly carried by us and not given here, were omitted on account of being indefinitely out of print and no prospect of republication. Please note that two new subjects have been added to our stock, "ENGINEERING" and "ELECTRICITY." This was done on account of the frequent demand for such books, and much care has been given the selection of them. All new works coming out between this and our next catalogue will be taken into stock, and any books not here given will be gladly furnished at publishers' price, if obtainable. We invariably supply the latest editions unless otherwise ordered. All books are net at catalogue price, post paid, to any address, except in a few instances where postage extra is mentioned on electrical books.

ASSAYING.

AARON (C. H.) Assaying: Part I, Gold and Silver Ores.....	\$1.00
Part II, Gold and Silver Bullion; Part III, Lead, Copper, Tin, Mercury, etc. (Part II and III in one volume)	1.50
BERINGER (C. and J. J.) A Text Book of Assaying. With numerous diagrams and index. Ninth edition, 456 pages, cloth, 1904.....	3.00
BROWN (W. L.) Manual of Assaying Gold, Silver, Copper, and Lead Ores. With one plate and 132 illustrations. Eleventh edition. 8vo, cloth, 1905.....	2.50
FLETCHER (E. L.) Quantitative Assaying with the Blow Pipe. Leather.....	1.50
FURMAN (H. Van F.) Manual of Practical Assaying. Fifth edition, 1905.....	3.00
HIORNS (A. H.) Practical Metallurgy and Assaying. An excellent treatise on dry methods of assaying. Illustrated, 2d edition, reprinted 1902.....	1.50
LIEBER (Oscar M.) Assayer's Guide. For assayers, miners and smelters, for the tests and assays, by heat and wet processes, for the ores of all the principal metals, of gold and silver coins and alloys, and of coal. 283 pages. 12mo, 1902.....	1.50
LODGE (R. W.) Notes on Assaying and Metallurgical Laboratory Experiments.....	3.00
LOW (Albert H.) Technical Methods of Ore Analysis. In print.....	
MacLEOD (W. A.) and WALKER (C) Metallurgical Analysis and Assaying.....	4.00
MILLER (Alfred Stanley) Manual of Assaying. A work for beginners and students on fire assays of gold, silver and lead, including amalgamation and chlorination tests. Second edition, 142 pages, 36 figures, cloth, 1901.....	1.00
RICKETTS (P. de P.) and MILLER (E. H.) Notes on Assaying. Containing also rules for the examination of mines, assayer's outfit, treatment of ores, etc. Third revised edition. 8vo, cloth, 1903.....	3.00

BLOW PIPE ANALYSIS.

BRUSH and PENFIELD. <i>Determinative Mineralogy and Blow Pipe Analysis.</i> Sixteenth edition, 1904	\$4.00
CORNWALL (H. B.) <i>Manual of Blow Pipe Analysis, Quantitative and Qualitative.</i> With a complete system of descriptive mineralogy. Sixth edition, 1902...	2.50
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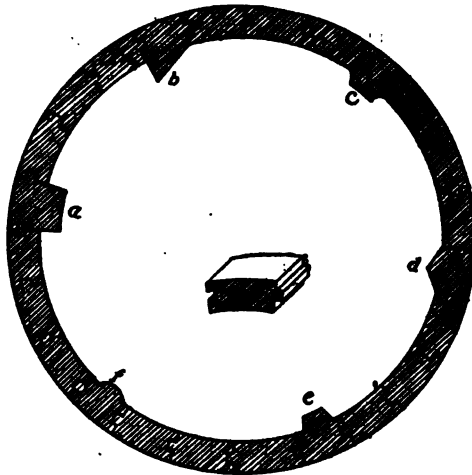
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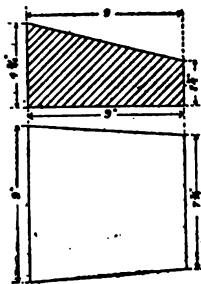
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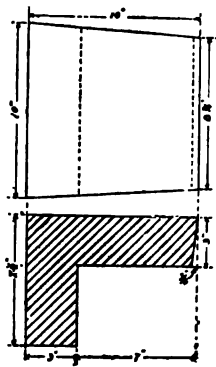
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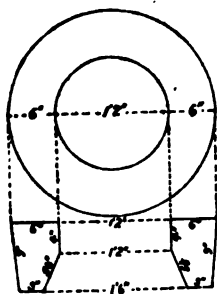
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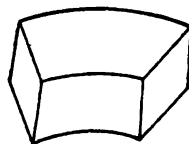
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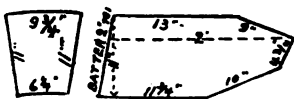
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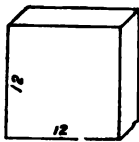
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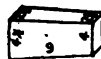
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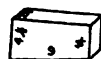
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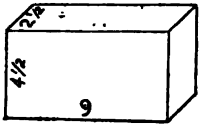


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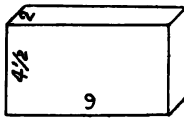
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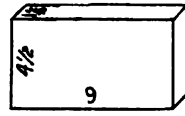
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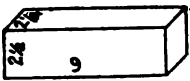
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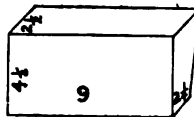
2—Special Square.



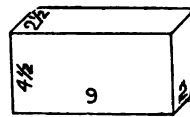
3—Split.



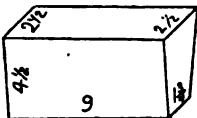
4—Soap.



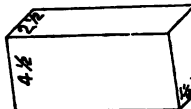
4 1/2—Arch.
80 in. Diameter Inside.
111 Brick to Circle.



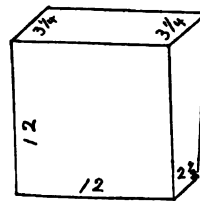
5—Arch.
36 in. Diameter Inside.
54 Brick to Circle.



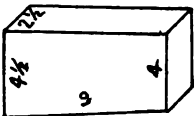
6—Arch.
21 in. Diameter Inside.
36 Brick to Circle.



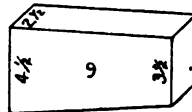
7—Arch.
13 in. Diameter Inside.
26 Brick to Circle.



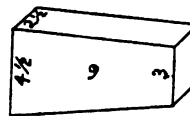
12—Arch.
For Lime Kilns.



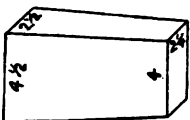
13—Key or Ringwall.
12 ft. Diameter Inside.
112 Brick to Circle.



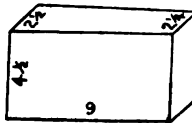
14—Key.
5 ft. Diameter Inside.
52 Brick to Circle.



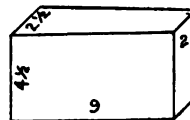
15—Key.
3 ft. Diameter Inside.
36 Brick to Circle.



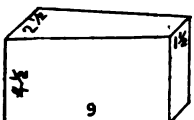
16—Dome.



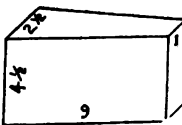
17—Wedge.
15 ft. Diameter Inside.



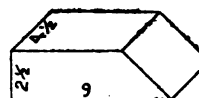
18—Wedge.
6 ft. Diameter Inside.
105 Brick to Circle.



19—Wedge.
27 in. Diameter Inside.
53 Brick to Circle.

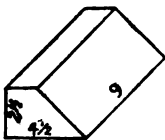


20—Wedge.
12 in. Diameter Inside.
36 Brick to Circle.

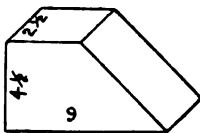


21—End Skew.
Any Angle to Order.

REGULAR 9-INCH FIRE BRICK.—Continued.



22—Side Skew.
Any Angle to Order.



23—Edge Skew.
Any Angle to Order.

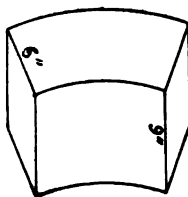


24—Jamb.

Prices of Square and Shape Fire Brick and Clay.

(Car load lots, f. o. b., Denver.)

No. 1 Pressed Fire Brick, per mille	\$23.00
Shape Brick, not exceeding $9 \times 4\frac{1}{2} \times 2\frac{1}{2}$ inches, per mille.....	25.00
Ground Fire Clay, in 100-pound sacks, per ton	5.00



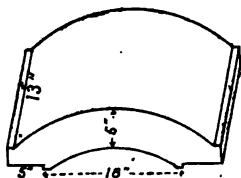
25—Cupola Blocks.

CUPOLA BLOCKS.

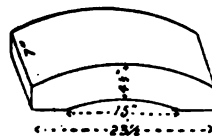
Outside Diameter of Lining	Thickness	Number to Circle	Weight
30 inches	$4\frac{1}{2}$ inches	11	$20\frac{1}{2}$ pounds
36 inches	$4\frac{1}{2}$ inches	12	21 pounds
40 inches	5 inches	14	22 pounds
42 inches	$4\frac{1}{2}$ inches	15	22 pounds
48 inches	5 inches	17	24 pounds
54 inches	6 inches	18	29 pounds
60 inches	5 inches	21	24 pounds

We carry in stock above sizes. Any other size or shape made to order.

TILE.

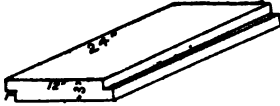


26—Arch Tile.
For the Top of Fire Boxes.
Used for Bake Ovens.
Price, \$1.15.

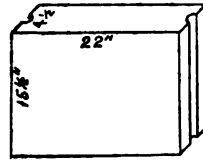


27—Arch Tile.
For the Top of Fire Boxes.
Price, 50 cents.

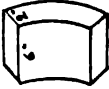
TILE—Continued.



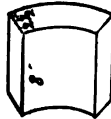
28—Flange or Rabbited Tile.
12x24x2½ in.
12x24x3 in.
Any Other Size to Order.



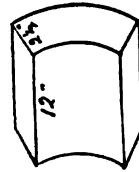
29—Damper or Door Tile.
To be bound with iron in the groove.
This Size in Stock.
Other Sizes to Order.



30—Candy and Brass
Furnace Linings.
Inside Diameter 14 in.
Outside Diameter 18 in.
6 to Circle.
Each, 10 cents.



31—Candy and Brass
Furnace Linings.
Inside Diameter 16 in.
Outside Diameter 21 in.
6 to Circle.
Each, 15 cents.

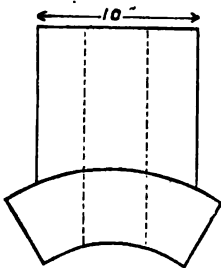


31a—Candy and Brass
Furnace Linings.
Inside Diameter 19 in.
Outside Diameter 24 in.
6 to Circle.
Each, 25 cents.

32—Refining or Brass
Furnace.
Inside Diameter 16 in.
Outside Diameter 24 in.
6 Bricks to Circle—
18 to 1 Furnace.

32a—Refining or Brass
Furnace.
Inside Diameter 18 in.
Outside Diameter 25 in.
6 Bricks to Circle—
18 to 1 Furnace.

32b—Refining or Brass
Furnace.
Inside Diameter 18 in.
Outside Diameter 28 in.
6 Bricks to Circle—
18 to 1 Furnace.



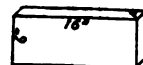
One in 18 to be Flue Tile, No. 32, 32a and 32b.
Lining complete with throat piece:
3½ 4 5 inches thick.

\$6.50	7.00	9.00
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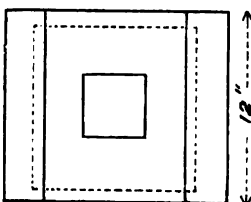
32c Flue or Throat Tile, for Refining or Brass Furnaces, No. 32, 32a, 32b.....each net \$1.50



33—Cylinder Stove Linings,
1 in. Thick.
Outside Diameters 9, 10, 11,
12 and 13 in.
5 to Circle—15 to Set.
Price, 5c each, or 50c per set.



34—Plain Stove-Back Tile,
1 in. Thick.
Sizes 1x5x16 in.
1x6x16 in.
1x7x18 in.
Price, 15 cents.



No. 32c

List of Rectangular Tile in Stock.

Thick- ness Inches	Width Inches	Length Inches	Weight Pounds	Thick- ness Inches	Width Inches	Length Inches	Weight Pounds	Thick- ness Inches	Width Inches	Length Inches	Weight Pounds
1	5	16	5	2	14	24	44	3	8	22	34
1	6	16	6	2	16	16	34	3	8	24	37
1	7	18	8	2	16	18	38	3	10	18	36
1½	6	16	10	2	16	22	47	3	10	20	39
1½	6	18	11	2	16	24	51	3	10	22	43
1½	6	20	12	2	18	18	43	3	10	24	47
1½	6	22	13	2	18	22	54	3	12	18	42
1½	6	24	15	2	18	24	59	3	12	22	51
1½	7	16	12	2½	4½	18	13	3	12	24	56
1½	7	18	13	2½	5	23	18	3	12	30	71
1½	7	20	15	2½	6	22	22	3	12	36	84
1½	7	22	16	2½	6	24	23	3	14	22	58
1½	7	24	18	2½	7	18	20	3	14	24	63
1½	8	16	13	2½	7	20	23	3	14	30	80
1½	8	18	15	2½	7	22	25	3	14	36	99
1½	8	20	17	2½	7	24	27	3	16	20	61
1½	8	22	19	2½	8	18	24	3	16	22	66
1½	8	24	21	2½	8	20	26	3	16	24	72
1½	10	16	16	2½	8	22	28	3	16	30	90
1½	10	18	18	2½	8	24	30	3	16	36	112
1½	10	20	20	2½	10	18	29	3	18	18	63
1½	10	22	22	2½	10	22	36	3	18	22	79
1½	10	24	24	2½	10	24	38	3	18	24	86
2	5	19	12	2½	12	12	23	3	18	30	108
2	6	18	14	2½	12	18	31	3	18	36	130
2	6	20	16	2½	12	22	43	4	8	18	37
2	6	22	17	2½	12	24	46	4	8	20	41
2	6	24	19	2½	12	30	56	4	8	22	45
2	7	18	17	2½	14	14	31	4	8	24	50
2	7	20	18	2½	14	16	41	4	10	18	47
2	7	22	20	2½	14	20	47	4	10	20	52
2	7	24	22	2½	14	22	51	4	10	22	56
2	8	16	16	2½	14	24	56	4	10	24	61
2	8	18	19	2½	14	30	64	4	10	30	78
2	8	20	21	2½	16	16	40	4	12	18	56
2	8	22	23	2½	16	18	46	4	12	20	63
2	8	24	25	2½	16	22	57	4	12	22	68
2	9	24	28	2½	16	24	62	4	12	24	77
2	10	18	25	2½	16	30	75	4	12	30	93
2	10	20	27	2½	18	18	53	4	12	36	112
2	10	22	30	2½	18	22	65	4	14	18	65
2	10	24	33	2½	18	24	71	4	14	20	73
2	12	12	19	2½	18	30	89	4	14	22	80
2	12	14	23	2½	22	24	87	4	14	24	87
2	12	16	25	2½	22	30	110	4	14	30	109
2	12	18	29	3	4½	22	20	4	14	36	130
2	12	20	32	3	4½	24	22	5	9	9	26
2	12	22	35	3	4½	28	25	5	9	18	54
2	12	24	38	3	8	18	28	5	13	14	60
2	14	18	33	3	8	20	31	5	16	44	238
2	14	22	40								

Tiles of 1-inch thickness, 2 cents per pound; 1½ inches, 1½ cents per pound; other sizes, 1 cent per pound. Ask for special quotations for large quantities.

We shall be pleased to make any other size to order.

PART V.

PRICES CURRENT

OF

CHEMICALS AND REAGENTS

KEPT IN STOCK AND SOLD BY

The Denver Fire Clay Company

DENVER, COLORADO, U. S. A.

N. B.—Prices subject to market variations. For quantities less than a quarter pound the ounce price will be adhered to. Merck's, Schuchardt's, Baker & Adamson's and Mallinckrodt's chemicals in stock.

Cost of BOTTLES and other containers INCLUDED, unless otherwise stated.

	Lbs.	Ozs.
Acetamide		\$0.50
Acetone, pure	\$0.60	
Acetone, chem. pure .....	.70	.15
Acetyl Bromide .....		.90
Acetyl Chloride .....		.40
Acetyl Iodide		1.00
Acid Acetic, com'l, No. 8, 30 %	Bottle, \$0.09	.10
Acid Acetic, pure, 30 %	Bottle, .09	.15
Acid Acetic, pure, 60 %	Bottle, .09	.20
Acid Acetic, glacial, 80 %	Bottle, .09	.30
Acid Acetic, chem. pure, 99½ %	Bottle, .09	.35
Acid Acetic, anhydrous	3.00	.40
Acid Antimonic (Antimony pentoxide) c. p.	1.00	.15
Acid Antimonious (Antimony trioxide) c. p.	1.00	.20
Acid Arsenicic, chem. pure .....	.60	.15
Acid Arsenous, com'l, powder .....	.15	
Acid Arsenous, pure, lumps .....	.35	.10
Acid Arsenous, pure, powder .....	.40	.10
Acid Arsenous, chem. pure .....	.60	.15

	Lbs.	Ozs.
Acid Benzoic, from benzoin, subl.	\$2.00	\$0.25
Acid Benzoic, from toluol. ....	.70	.10
Acid Boric, com'l, cryst. ....	.25	
Acid Boric, com'l, powder ....	.25	
Acid Boric, cryst., chem. pure Carton	.40	.10
Acid Boric, powder, chem. pure. Carton	.45	.10
Acid Boric, fused, chem. pure	1.50	.20
Acid Boro-Wolframic (boro-tungstic), sp. g. 2.6		1.50
Acid Bromic, sp. g. 1.120	4.00	.40
Acid Carbolic, crude 50 % Gal., \$0.80		
Acid Carbolic, white, cryst., pure ....	.45	
Acid Carbolic, loose, cryst., chem. pure ....	.80	.15
Acid Carbonic, liquified, in steel cylinders ....	.40	
Acid Carminic, chem. pure		3.00
Acid Catechic, pure.		1.00
Acid Chloric. ....		.40
Acid Chloroplatinic. ½ oz., \$1.75		12.00
Acid Chromic, com'l, for batteries Bottle, .15	.40	
Acid Chromic, pure, cryst. Bottle, .15	.80	
Acid Chromic, chem. pure, cryst., free from H ₂ SO ₄ Bottle, .15	1.50	.25
Acid Citric, cryst, purified ....	.80	.10
Acid Citric, cryst., chem. pure	1.00	.20
Acid Formic, pure, 1.06 (25 %) Bottle, \$0.15	.60	.20
Acid Formic, pure, 1.12 (50 %) Bottle, .15	.70	.20
Acid Formic, pure, 1.20 (90 %) Bottle, .15	1.50	.25
Acid Formic, pure, crystallizable, 1.22 Bottle, .15	4.00	.50
Acid Gallic, cryst., pure	1.00	.15
Acid Hydrobromic, sp. g. 1.20, chem. pure Bottle, \$0.15	1.20	.20
Acid Hydrobromic, sp. g. 1.49, chem. pure Bottle, .15	2.00	.25
Acid Hydrobromic, sp. g. 1.78, chem. pure Bottle, .15	4.50	.50
Acid Hydrobromic, diluted, sp. g. 1.077, U. S. P. Bottle, .10	.35	.15
Acid Hydrochloric, com'l, 22° B., in 1-lb. bottles. Bottle, .15	.10	
Acid Hydrochloric, com'l, 22° B., in 6-lb bottles. Bottles, .25	.06	
Acid Hydrochloric, com'l, 22° B., in carboys. Carboy, 1.50	.03	
Acid Hydrochloric, strictly chem. pure, sp. g. 1.20, free from As, Cl, Fe and S, in 1-lb. bottles. incl.	.35	
Acid Hydrochloric, strictly chem. pure, sp. g. 1.20, free from As, Cl, Fe and S, in 6-lb. bottles. incl.	.20	
Acid Hydrochloric, strictly chem. pure, sp. g. 1.20, free from As, Cl, Fe and S, in carboys incl.	.12	

	Lbs.	Ozs.
Acid Hydrocyanic, diluted, U. S. P.—2 %.....	\$0.40	\$0.15
Acid Hydrofluoric, chem. pure, B. & A.'s, in 1-lb. Ceresine bottles...incl.	1.60	.25
Acid Hydrofluoric, chem. pure, B. & A.'s, in $\frac{1}{4}$ -lb. Ceresine bottles...incl.	1.80	
Acid Hydrofluoric, chem. pure, B. & A.'s, in $\frac{1}{4}$ -lb. Ceresine bottles...incl.	2.40	
Acid Hydrofluoric, com'l, B. & A.'s, in 1-lb. Ceresine bottles.....incl.	.90	.15
Acid Hydrofluoric, com'l, in 15-lb. lead jug.....Jug, \$2.50	.25	
Acid Hydrofluorsilicic, com'l.....Bottle, .15	.50	.20
Acid Hydrofluorsilicic, chem. pure.....Bottle, .15	2.00	.30
Acid Hydroiodic, 1.50.....		.50
Acid Hydroiodic, 15 %.....Bottle, \$0.15	1.20	.30
Acid Hypophosphorous, 30 %.....	1.50	.25
Acid Iodic, cryst.....		1.00
Acid Iodic, anhydrous.....		1.20
Acid Lactic, conc., pure.....	1.00	.15
Acid Malic.....		1.00
Acid Molybdic, chem. pure, free from ammonia.....	4.50	.45
Acid Molybdic, pure.....	2.20	.25
Acid Monobromacetic.....		.80
Acid Monochloracetic, pure.....		.40
Acid Muriatic. (See Acid Hydrochloric.)		
Acid Nitric, com'l, 38° Be, in 1-lb. bottles.....Bottle, \$0.15	.15	
Acid Nitric, com'l, 38° Be, in 7-lb. bottles.....Bottle, .25	.12	
Acid Nitric, com'l, 38° Be, in carboys.....Carboy, 1.50	.10	
Acid Nitric, strictly chem. pure, sp. g. 1.42, free from As, Fe, Cl and S, in 1-lb. bottles.....incl.	.35	
Acid Nitric, strictly chem. pure, sp. g. 1.42, free from As, Fe, Cl and S, in 7-lb. bottles.....incl.	.20	
Acid Nitric, strictly chem. pure, sp. g. 1.42, free from As, Fe, Cl and S, in carboys.....incl.	.13	
Acid Nitric, fuming, com'l, 1.60.....Bottle, \$0.15	.60	
Acid Nitric, fuming, chem. pure, sp. g. 1.60.....Bottle, .15	.80	
Acid Oleic (oleinic), com'l.....		.30
Acid Oleic (oleinic), pure.....	.50	
Acid Oleic (oleinic), chem. pure.....		.60
Acid Osmic, cryst.....1-gramme vial, \$2.50		
Acid Oxalic, com'l.....	.15	
Acid Oxalic, chem. pure.....Carton	.50	.10
Acid Palmitic, pure.....		.60
Acid Perchloric, pure.....	5.00	.50
Acid Phospho-Antimonic, 10 % solution.....		.30

	Lbs.	Ozs.
Acid Phospho-Molybdic, cryst		\$1.20
Acid Phospho-Molybdic, 10 % solution	\$1.20	.20
Acid Phospho-Tungstic (phospho-wolframic), cryst.....	4.00	.45
Acid Phospho-Tungstic (phospho-wolframic), 10 % solution	1.50	.25
Acid Phosphoric, anhydrous (P_2O_5)	Bottle, \$0.20	1.25 .25
Acid Phosphoric, glacial, in sticks .....	.80	.15
Acid Phosphoric, syrupy, 85 %	Bottle, \$0.15	.50 .15
Acid Phosphoric, diluted, 10 %	Bottle, .10	.20
Acid Phosphoric, diluted, 50 %	Bottle, .10	.35
Acid Phosphorous, sp. g. 1.120	2.00	.30
Acid Phtalic, anhydrous, subl .....		.30
Acid Phtalic, cryst., chem. pure .....		.40
Acid Picric (carbazotic), chem. pure.....	1.50	.20
Acid Picric (carbazotic), com'l .....	.50	.10
Acid Propionic, pure .....		.60
Acid Prussic. (See Acid Hydrocyanic.)		
Acid Pyrogallic, resublimed, Mallinckrodt's, 1-lb. tins.	2.50	.30
Acid Pyrogallic, resublimed, Mallinckrodt's, $\frac{1}{2}$ -lb. tins.	2.70	
Acid Pyrogallic, resublimed, Mallinckrodt's, $\frac{1}{4}$ -lb. tins.	3.00	
Acid Pyroligneous, rectified .....	.40	
Acid Pyrophosphoric .....		.30
• Acid Rosolic. ....		.30
Acid Salicylic	Carton .70	.15
Acid Selenic, sp. g. 1.400	$\frac{1}{2}$ oz., \$0.60	4.00
Acid Selenous, subl.	$\frac{1}{2}$ oz., 1.25	
Acid Silicic, precip. ....	.50	.15
Acid Silicic, chem. pure.....	.90	.20
Acid Silicic, com'l .....	.10	
Acid Stearic, com'l.....	.25	
Acid Stearic, chem. pure. ....		.50
Acid Stibic, chem. pure.	1.00	.20
Acid Stibious, chem. pure.	1.00	.20
Acid Succinic, com'l	2.00	.25
Acid Succinic, chem. pure.....	3.00	.35
Acid Sulphanilic, white cryst.	2.50	.30
Acid Sulpho-salicylic .....		.45
Acid Sulphuric, com'l, 66° B., in 1-lb. bottles.	Bottle, \$0.15	.10
Acid Sulphuric, com'l, 66° B., in 9-lb. bottles.	Bottle, .25	.06
Acid Sulphuric, com'l, 66° B., in carboys	Carboy, \$1.50	.03
Acid Sulphuric, com'l, 66° B., in drums of 1,600 lbs. (drum \$7.00).....		.02

THE DENVER FIRE CLAY COMPANY.

301

	Lbs.	Ozs.
Acid Sulphuric, strictly chem. pure, sp. g. 1.845, free from As, N, SO ₂ and organic matter, in 1-lb. bottles .....incl.	\$0.35	
Acid Sulphuric, strictly chem. pure, sp. g. 1.845, free from As, N, SO ₂ and organic matter, in 9-lb. bottles .....incl.	.18	
Acid Sulphuric, strictly chem. pure, sp. g. 1.845, free from As, N, SO ₂ and organic matter, in carboys .....incl.	.12	
Acid Sulphuric, anhydr.	1.50	
Acid Sulphuric, anhydrous, in sealed glass bulbs of about 100 grammes ..	1.50	
Acid Sulphuric, fuming, Nordhausen .....Bottle, \$0.15	.35	
Acid Sulphurous, U. S. P. ....Bottle, .15	.20	
Acid Sulphurous, chem. pure, B. & A.'s. ....Bottle, .15	.25	
Acid Tannic (Tannin) .....Carton	1.00	\$0.15
Acid Tannic, chem. pure .....Carton	1.75	.25
Acid Tartaric, cryst .....	.45	
Acid Tartaric, powder .....	.50	
Acid Tartaric, chem. pure, cryst .....	.90	.15
Acid Tartaric, chem. pure, powder	1.00	.15
Acid TelluricGrm. \$1.50		
Acid Titanic . . . . .		.80
Acid Trichloracetic	4.00	.40
Acid Tungstic (wolframic), technical . . . . .		.20
Acid Tungstic (wolframic), chem. pure . . . . .		.45
Acid Uranic, pure . . . . .		.90
Acid Uric, pure. . . . .		.75
Acid Vanadic, chem. pure. $\frac{1}{2}$ oz., \$0.60		4.00
Acid Vanadic, technical		1.50
Acid Wolframic. (See Acid Tungstic.)		
Agar Agar, in shreds. . . . .	.80	
Albumen, from blood, chem. pure . . . . .		.50
Albumen, from eggs, soluble.	1.20	.20
Alcannin . . . . .		.45
Alcohol, 95 %Pint, \$0.50		
Alcohol, 95 %Quart, .90		
Alcohol, 95 %Gal., 3.00		
Alcohol AbsolutePint, .75		
Alcohol AbsoluteQuart, 1.40		
Alcohol AbsoluteGal., 5.50		
Alcohol Amylic, com'l (fusel oil).Gal., 2.50		
Alcohol Amylic, chem. pure	1.00	
Alcohol Methyl (wood alcohol), 95 %Gal., 1.20		

	Lbs.	Ozs.
Alcohol Methyl (wood alcohol), absolute Gal., 1.50		
Alcohol Methyl, chem. pure	\$1.50	
Aldehyde, conc	1.60	\$0.20
Alizarin, dry . . . . .		.80
Alizarin, paste, 20 % . . . . .	.75	.20
Alizarin, Soda Sulfonate	1.50	.20
Alum, com'l, in lumps . . . . .	.10	
Alum, com'l, in powder . . . . .	.10	
Alum Ammoniacal, chem. pure . . . . .	.35	
Alum Chromic, com'l (chrome-alum) . . . . .	.15	
Alum Chromic, com'l, powder . . . . .	.20	
Alum Chromic, chem. pure . . . . .	.40	
Alum Ferric, chem. pure . . . . .	.50	
Alum Potassic, chem. pure . . . . .	.30	
Alum Sodic, chem. pure . . . . .	.60	
Aluminum, metal, ingots . . . . .	.60	
Aluminum, metal, powder, coarse	1.20	.20
Aluminum, metal, powder, fine	1.60	.20
Aluminum, metal, sheet, up to No. 28 . . . . .	.80	.10
Aluminum, metal, sheet, No. 34	1.25	.20
Aluminum, metal, wire, up to No. 16 . . . . .	.80	.10
Aluminum, metal, wire, No. 20	1.00	.15
Aluminum, metal, sheet, 1-16 inch, 99.7 % pure, impurities all silicon with traces of iron	1.00	.15
Aluminum Leaf, 5x5 in. Small book, \$0.15		
Aluminum Acetate, chem. pure . . . . .	.90	.15
Aluminum Chloride, cryst., chem. pure	1.00	.15
Aluminum Fluoride, chem. pure, dry	2.50	.35
Aluminum Nitrate, cryst., chem. pure	1.00	.15
Aluminum Nitrate, dry, chem. pure	1.50	.25
Aluminum Oxide, hydrated, com'l . . . . .	.25	.15
Aluminum Oxide, hydrated, pure . . . . .	.90	.10
Aluminum Oxide, hydrated, chem. pure	1.80	.20
Aluminum Oxide, chem. pure	2.00	.30
Aluminum Phosphate, chem. pure	1.80	.25
Aluminum Silicate, pure	1.75	.25
Aluminum Sulphate, com'l . . . . .	.10	
Aluminum Sulphate, pure . . . . .	.40	.10
Aluminum Sulphate, cryst., chem. pure	1.00	.15
Aluminum Tartrate, chem. pure	3.00	.40

	Lbs.	Ozs.
Aluminum and Sodium Chloride, chem. pure	\$2.00	\$0.25
Amalgams. (See their respective metals.)		
Ammonia Water. (See Ammonium Hydrate.)		
Ammonium Acetate, cryst, chem. pure .....	.90	.15
Ammonium Arsenate, chem. pure	1.75	.25
Ammonium Arsenite, chem. pure	1.50	.25
Ammonium Bicarbonate, chem. pure .....	.75	.15
Ammonium Bichromate, chem. pure .....	.90	.15
Ammonium Binoxalate .....	.90	.15
Ammonium Bisulphate, pure	1.00	.20
Ammonium Bisulphite, pure	2.50	.30
Ammonium Bromide .....	.60	.15
Ammonium Bromide, chem. pure	1.75	.25
Ammonium Carbonate, resublimed, pure, 5-lb. cans .....	.20	
Ammonium Carbonate, resublimed, powdered, 5-lb. cans .....	.25	
Ammonium Carbonate, chem. pure .....	.50	.10
Ammonium Chloride, granul .....	.15	
Ammonium Chloride, lumps .....	.20	
Ammonium Chloride, granul, pure .....	.30	.10
Ammonium Chloride, chem. pure, hydc. free .....	.50	
Ammonium Chromate, chem. pure	2.00	.25
Ammonium Citrate	1.50	.15
Ammonium Fluoride, chem. pure	2.00	.25
Ammonium Hydrate (aqua ammonia), conc., 26° B., in 1-lb. bottles. incl.	.30	
Ammonium Hydrate (aqua ammonia), conc., 26° B., in 4-lb. bottles. incl.	.18	
Ammonium Hydrate (aqua ammonia), conc., 26° B., in carboys. incl.	.10	
Ammonium Hydrate, strictly chem. pure, B. & A.'s, in 1-lb. bottles. incl.	.35	
Ammonium Hydrate, strictly chem. pure, B. & A.'s, in 4-lb. bottles. incl.	.23	
Ammonium Hydrate, strictly chem. pure, B. & A.'s, in carboys .....	.16	
Ammonium Hydrosulphide (solution), Mall .....	.30	
Ammonium Hydrosulphide (solution), Merck's .....	.40	
Ammonium Hypophosphite .....		.25
Ammonium Hyposulphite (thiosulphate)	2.00	.20
Ammonium Iodide	6.75	.60
Ammonium Molybdate, chem. pure	2.50	.25
Ammonium Nitrate, granul .....	.30	
Ammonium Nitrate, cryst., chem. pure .....	.55	.10
Ammonium Nitrite, liquid	1.20	.20
Ammonium Oxalate, chem. pure .....	.60	.10
Ammonium Persulphate	1.20	.20

	Lbs.	Ozs.
Ammonium Phosphate, chem. pure (dibasic)	\$1.00	\$0.15
Ammonium Phosphate, com'l .....	.30	
Ammonium Phosphite, pure .....		.50
Ammonium Phospho-Molybdate		1.00
Ammonium Picrate, pure	2.00	.30
Ammonium Salicylate .....		.20
Ammonium Succinate, cryst., pure	3.50	
Ammonium Sulphate, com'l .....	.10	
Ammonium Sulphate, chem. pure .....	.35	.10
Ammonium Sulphide, Mall. Bottle, \$0.15	.30	
Ammonium Sulphite, cryst., chem. pure	1.30	.20
Ammonium Sulphocyanate, pure .....	.70	.15
Ammonium Tartrate, pure	1.60	.20
Ammonium Thiosulphate	2.00	.20
Ammonium Tungstate (wolframate), pure .....		.35
Ammonium Vanadate, pure		1.10
Ammonium Double Salts. (See under their respective metals.)		
Amygdalin		1.20
Amyl Acetate ("pear oil")	1.00	.20
Amyl Acetate, chem. pure	2.00	.30
Amyl Nitrate .....		.40
Amyl Nitrite .....		.35
Amylen Hydrate, pure .....		.50
Amylum Iodide or Iodized Starch .....		.35
Aniline (Aniline oil), white, pure .....	.75	.15
Aniline Acetate .....		.35
Aniline Chloride, pure	1.00	.20
Aniline Chloride, com'l. ....	.50	.15
Aniline Nitrate .....		.25
Aniline Oxalate .....		.25
Aniline Sulphate .....		.20
Aniline Colors (coal tar dyes):		
Black, Nigrosine, soluble in water.	1.50	.25
Black, Nigrosine, soluble in alcohol	2.00	.30
Blue	2.50	.30
Blue, Methyl		1.00
Blue, Methylene .....		.85
Brown, Bismarck	1.50	.30
Green, Malachite	1.50	.35
Green, Methyl, cryst .....		.40

	Lbs.	Ozs.
Aniline Colors (coal tar dyes)—Continued.		
Green, Brilliant	\$1.50	\$0.30
Orange, Methyl, Indicator . . . . .		.40
Orange, "G" . . . . .		.30
Red, Fuchsine, large cryst	2.00	.35
Red, Congo red. . . . .		.40
Red, Coraline . . . . .		.35
Red, Eosine. . . . .		.35
Red, Safranine . . . . .		.50
Rose, Bengale . . . . .		.90
Violet, Gentian . . . . .		.35
Violet, Methyl. . . . .		.35
Violet, Hofmann's . . . . .		.40
Yellow, Naphthaline (Martius')	2.00	.30
Anthrachinone, pure . . . . .		.40
Antimony, metal, com'l, "Regulus" . . . . .	.30	
Antimony, metal, com'l, powder . . . . .	.40	
Antimony, metal, chem. pure	1.50	.20
Antimony Arsenate . . . . .		.30
Antimony Arsenite . . . . .		.30
Antimony Chloride, cryst., pure (antimonious trichloride)	1.60	.25
Antimony Chloride, solution (butter of antimony) Bottle, \$0.15	.20	
Antimony Chloride, Antimonic (pentachloride), chem. pure	2.00	.30
Antimony Oxide, white . . . . .	.50	.10
Antimony Oxide (antimonic or stibic acid) Sb_2O_5 , chem. pure	1.00	.20
Antimony Oxide (antimonious or stibious acid) Sb_2O_3 , chem. pure	1.00	.20
Antimony Oxychloride	1.50	.30
Antimony Sulphate, chem. pure	1.00	.15
Antimony Sulphide, golden (antimonic penta-sulphide) . . . . .	.50	.10
Antimony Sulphide, black (antimonious trisulphide) . . . . .	.50	.10
Antimony Sulphide, red, chem. pure	1.80	.25
Antimony and Potassium Tartrate, cryst, chem. pure . . . . .	.80	.15
Antimony and Potassium Tartrate powder (Tartar emetic) . . . . .	.50	.10
Aqua Ammonia. (See Ammonium Hydrate.)		
Argols, red, powd. 5 lbs., \$0.12	.15	
Arsenic, metal, pure, cryst . . . . .	.50	
Arsenic Bromide, cryst . . . . .		.40
Arsenic Chloride Bottle and tin, \$0.10		.40
Arsenic Iodide, pure, cryst . . . . .		.60
Arsenic Phosphide		1.00

	Lbs.	Ozs.
Asbestos Pulp.	\$0.10	
Asbestos, short fibre .....	.30	
Asbestos, long fibre, white, select	1.50	\$0.15
Asbestos, washed in acid	2.50	.25
Asbestos, platinized, 5 %		4.00
Asparagin		1.00
Azobenzole (azobenzene), pure .....		.50
Balsam Fir, pure (Canada balsam)	Bottle, \$0.10	.50
Balsam Fir, clear, filtered.	Bottle, .10	1.20
Balsam Fir, dry, hard.	3.00	.25
Barium Acetate, chem. pure	1.00	.15
Barium Bromide .....		.30
Barium Carbonate, precip .....	.20	
Barium Carbonate, chem. pure .....	.75	.15
Barium Chlorate, chem. pure .....	.80	.15
Barium Chloride, com'l .....	.12	
Barium Chloride, chem. pure.	Carton	.30
Barium Chromate, chem. pure. ....	.80	.15
Barium Fluoride, chem. pure	1.00	.20
Barium Hypophosphite .....		.45
Barium Hyposulphite (thiosulphate), chem. pure .....		.40
Barium Iodate		1.00
Barium Iodide .....		.60
Barium Nitrate, cryst. ....	.20	
Barium Nitrate, powd. ....	.20	
Barium Nitrate, cryst., chem. pure .....	.40	.10
Barium Oxalate, pure.	1.00	.15
Barium Oxide, hydrated (caustic), chem. pure .....	.60	.15
Barium Oxide, hydrated (caustic), chem. pure, dry .....	.80	.15
Barium Oxide, anhydrous, pure .....	.70	.15
Barium Peroxide, anhydrous .....	.40	
Barium Peroxide, anhydrous, pure .....	.75	.15
Barium Phosphate, chem. pure.	2.00	.20
Barium Sulphate, native (barytes, heavy spar) .....	.10	
Barium Sulphate, native, powder .....	.10	
Barium Sulphate, precipitated, pure .....	.45	
Barium Sulphide, com'l. ....	.30	
Barium Sulphide, chem. pure. ....	.80	.15
Barium Sulphocyanate, pure.	1.00	.15
Barium Thiosulphate, chem. pure .....		.40

	Lbs.	Ozs.
Battery Fluid. Bottle, \$0.30; gal., \$0.75		
Benzaldehyde	\$1.25	\$0.20
Benzine (petroleum naphtha) Can, \$0.20; gal., \$0.35		
Benzine, chem. pure .....	.70	
Benzol (benzene, coal naphtha), purif., 90%..... Gal., \$1.50	.30	
Benzol, chem. pure, crystallizable .....	.75	.15
Benzoyl Chloride, pure .....		.40
Benzyl Chloride, pure .....		.25
Beryllium Carbonate	1 grm., \$0.20	
Beryllium Chloride	1 grm., .20	
Beryllium Oxide, hydrated.....	1 grm., .20	
Beryllium Oxide, anhydrous	1 grm., .50	
Beryllium Sulphate.....	1 grm., .20	
Bismuth, metal, pure.....	4.00	.40
Bismuth, metal, chem. pure	5.00	.50
Bismuth Bromide .....		.50
Bismuth Carbonate, chem. pure	5.00	.50
Bismuth Chloride, chem. pure.....	5.00	.50
Bismuth Iodide .....		.80
Bismuth Nitrate, cryst., chem. pure	3.50	.40
Bismuth Oxide, anhydrous.....	6.00	.60
Bismuth Oxide, hydrated, pure	5.00	.50
Bismuth Oxychloride, chem. pure.....	4.00	.40
Bismuth Phosphate .....		.60
Bismuth Subcarbonate (oxycarbonate).....	4.00	.40
Bismuth Subnitrate	3.50	.35
Bismuth Sulphate	4.50	.45
Bismuth Tannate .....		.35
Black Flux (Plattner's)	1.75	.20
Bone Ash, superior quality.....	.08	
Bone Ash	25, 50 and 100-lb. boxes	.06
Bone Ash. In bbl., special rates.		
Bone Ash, washed .....	.30	
Bone Black. (See Charcoal, Animal.)		
Borax, refined, crystals .....	.15	
Borax, refined, crystals	25 and 50-lb. boxes	.10
Borax, refined, powdered .....	.15	
Borax, refined, powdered	25 and 50-lb. boxes	.10
Borax Glass, powdered.....	.40	
Borax Glass, powdered	25, 50 and 100-lb. boxes	.25

	Lbs.	Ozs.
Borax Glass. In bbl., special rates.		
Brazil Wood	\$0.20	
Bromine..... 1 lb. inc. tin and g. s. b.	1.00	\$0.25
Bromine..... $\frac{1}{2}$ lb. inc. tin and g. s. b.	1.20	
Bromine..... $\frac{1}{4}$ lb. inc. tin and g. s. b.	1.50	
Bromine Chloride .....		.70
Bromoform .....		.25
Brucine, pure	Dramme, \$0.30	2.00
Cadmium, metal, in sticks	1.50	.15
Cadmium Acetate, chem. pure	3.00	.35
Cadmium Bromide, chem. pure	2.00	.20
Cadmium Carbonate, chem. pure	3.00	.35
Cadmium Chloride, chem. pure	2.50	.30
Cadmium Iodide, chem. pure	6.00	.60
Cadmium Nitrate, chem. pure	2.20	.25
Cadmium Oxide, chem. pure	5.00	.50
Cadmium Sulphate, chem. pure	2.20	.25
Cadmium Sulphide, chem. pure	3.50	.35
Caesium Chloride	Grm. \$ 0.50	
Calcium, metal, by electrolysis	Grm. 10.00	
Calcium Acetate, crude .....	.15	
Calcium Acetate, chem. pure .....	.65	.15
Calcium Bisulphite, solution .....	.35	
Calcium Bromide .....	.80	.15
Calcium Carbide. 2-lb. tin, \$0.30; 10-lb. tin, \$1.25		
Calcium Carbonate, precipitated .....	.15	
Calcium Carbonate, chem. pure .....	.70	.10
Calcium Chlorate	3.00	.35
Calcium Chloride, crude	in 5-lb. tins, \$0.10	.15
Calcium Chloride, crude, granular	in 5-lb. tins, .25	.30
Calcium Chloride, anhydrous, for dessicators .....	.40	
Calcium Chloride, anhydrous, chem. pure .....	.70	
Calcium Chloride, cryst., chem. pure .....	.40	
Calcium Chloride, fused, gran., chem. pure .....	.60	
Calcium Chromate, chem. pure .....	.75	.15
Calcium Fluoride, native, powdered .....	.10	
Calcium Fluoride, chem. pure	1.50	.25
Calcium Formate .....		.30
Calcium Hypochlorite (chloride of lime)	1-lb. cans	.15
Calcium Hypochlorite (chloride of lime)	10-lb. cans	.10

	Lbs.	Ozs.
Calcium Hypochlorite, chem. pure	\$0.80	
Calcium Hypophosphite	1.00	\$0.15
Calcium Iodate .....		.75
Calcium Iodide .....		.60
Calcium Nitrate, chem. pure .....	.80	.15
Calcium Oxalate, chem. pure	1.50	.20
Calcium Oxide, caustic .....	.10	
Calcium Oxide, pure, from marble .....	.40	.10
Calcium Oxide, chem. pure .....	.75	.15
Calcium Phosphate, precip .....	.30	
Calcium Phosphate, dibasic, chem. pure	1.00	.15
Calcium Phosphate, monobasic, pure	1.50	.20
Calcium Phosphate, tritasic, precip., dry	1.00	.15
Calcium Phosphide, chem. pure	2.50	.25
Calcium Phosphite, chem. pure	3.00	.35
Calcium Silicate, pure	1.00	.20
Calcium Sulphate (gypsum, plaster paris) .....	.10	
Calcium Sulphate, pure .....	.35	.10
Calcium Sulphate, chem. pure .....	.50	.15
Calcium Sulphide .....	.45	
Calcium Sulphite, com'l .....	.25	
Calcium Sulphite, pure .....	.50	.15
Calcium Thiosulphate	1.00	.20
Camphor, refined	1.00	
Canada Balsam. (See Balsam Fir.)		
Carbon Bisulphide (sulphur alcohol), in 5-lb. tins, \$0.20	.25	
Carbon Bisulphide, pure .....	.60	.15
Carbon Dichloride (C_2Cl_4)		1.75
Carbon Tetrachloride (CCl_4) .....	.50	
Carbon Trichloride (C_2Cl_6)		1.00
Carborundum, powder .....	.75	
Carmine, No. 40	5.50	.50
Casein, com'l .....	.50	.10
Casein, chem. pure	3.00	.35
Celloidine, in shreds, for microscopic work	Box, \$1.00	
Cerium, metal, powd	Grm., 4.00	
Cerium Chloride	2.50	.30
Cerium Nitrate	2.50	.30
Cerium Oxalate .....	.70	.10
Cerium Oxide .....		.40

	Lbs.	Ozs.
Cerium Sulphate (ceric)		\$0.30
Cerium Sulphate (cerous) . . . . .		.30
Chalk, in lumps	\$0.10	
Chalk, precipitated . . . . .	.15	
Chalk, red (redde) . . . . .	.20	
Chalk, French (talcum) . . . . .	.10	
Charcoal, Animal, granul . . . . .	.15	
Charcoal, Animal, powd . . . . .	.10	
Charcoal, Animal, purified . . . . .	.50	
Charcoal, Animal, pure	2.50	
Charcoal from blood, purified by acid	2.00	.25
Charcoal, from meat	3.00	.30
Charcoal, from wood, in squares, 4x1 inch Doz.,	\$0.50	
Charcoal, from wood, powd. . . . .	.10	
Chloral Hydrate, cryst	1.50	.20
Chloroform, pure . . . . .	.60	
Chloroform, pure, Squibb's $\frac{1}{2}$ Kits,	\$1.25	
Chlorophyll, chem. pure Grm.,	.40	
Chlorophyll, technical . . . . .		.35
Chromium, metal Grm.,	\$0.70	
Chromium Acetate, chem. pure	2.00	.25
Chromium Chloride, chem. pure	1.80	.25
Chromium Chloride, subl., sesqui (Cr_2Cl_6)		1.00
Chromium Chloride, subl., sesqui (Cr_2Cl_6), solution	2.00	.20
Chromium Nitrate $\frac{1}{2}$ . . . . .		.25
Chromium Oxalate	1.80	.20
Chromium Oxide (Cr_2O_3), pure	1.20	.20
Chromium Oxide, hydrated ($\text{Cr}_2(\text{OH})_6 + 4\text{H}_2\text{O}$) . . . . .	.80	.15
Chromium Sulphate	2.00	.25
Cinnabar, native	1.50	.20
Cobalt, metal, cubes, 98-99 %	5.00	.35
Cobalt, metal, chem. pure		1.50
Cobalt Acetate, cryst.	4.00	.50
Cobalt Arsenate, pure	6.00	.60
Cobalt Carbonate, pure	4.00	.40
Cobalt Chloride, pure	2.50	.25
Cobalt Chromate . . . . .		.40
Cobalt Nitrate, pure	2.50	.30
Cobalt Oxide, com'l, "zaffre" . . . . .	.70	.10
Cobalt Oxide, black	4.50	.45

	Lbs.	Ozs.
Cobalt Phosphate, pure.....	\$5.00	\$0.50
Cobalt Sulphate, pure.....	2.00	.25
Cochineal .....	.70	.10
Cochineal, powd. ....	.80	.10
Collodion, U. S. P.....	1.00	.15
Congo Paper	Sheet, \$0.10	
Copper Filings .....	.50	
Copper Turnings .....	.40	
Copper, metal, granular, com'l.....	.60	
Copper, metal, granular, pure	1.50	
Copper, metal, foil.....	.50	
Copper, metal, foil, pure, Merck's, 99-95 % Cu.	2.00	.20
Copper, metal, foil, pure, D. F. C. Co.'s 99-82 % Cu.	1.50	.15
Copper, metal, fine powder, chem. pure	2.50	.25
Copper, metal, wire, pure .....		.10
Copper Acetate, basic (verdigris) .....	.40	
Copper Acetate, chem. pure .....	.80	.15
Copper Arsenate, chem. pure	1.00	.15
Copper Arsenite, pure.....	2.00	.20
Copper Bichloride, pure .....	.60	.15
Copper Carbonate, chem. pure.....	.90	.15
Copper Chloride, cryst., pure (bichloride) (cupric) .....	.60	.15
Copper Chloride, white (monochloride) (cuprous)	2.00	.20
Copper Chromate .....		.20
Copper Cyanide, chem. pure.....	1.50	.20
Copper Ferrocyanide	2.00	.30
Copper Iodide.....		.70
Copper Nitrate, cryst., chem. pure .....	.70	.15
Copper Nitroprussiate .....		.50
Copper Oxide, black, com'l, powd .....	.50	
Copper Oxide, black, powd., chem. pure .....	.90	.15
Copper Oxide, black, granulated, chem. pure	1.20	.20
Copper Oxide, black, wire form, chem. pure	1.60	.20
Copper Oxide, red, pure (cuprous)	1.50	.20
Copper Oxide, red, com'l .....	.50	.10
Copper Phosphate .....		.30
Copper Sulphate, cryst. (blue vitriol) .....	.10	
Copper Sulphate. In barrels, special offer.		
Copper Sulphate, cryst., chem. pure .....	.50	.10
Copper Sulphate, anhydrous, chem. pure .....	.90	.15

	Lbs.	Ozs.
Copper Sulphide, powd	\$1.00	\$0.15
Copper Sulphide, fused .....	.60	.15
Copper Sulphocyanate	2.00	.25
Copper Tannate .....		.20
Copper and Ammonium Chloride, chem. pure .....	.70	.15
Copper and Ammonium Sulphate, chem. pure .....	.70	.15
Copper and Potassium Chloride, chem. pure .....	.70	.15
Copperas .....	.05	
Cotton, Absorbent .....	.50	.10
Cotton, Soluble .....		.25
Creosote, from coal tar .....	.60	.15
Creosote, from beech tar	1.40	.20
Cryolite, powd. ....	.20	
Dextrine, yellow, com'l .....	.15	
Dextrine, white, com'l. ....	.15	
Dextrine, pure, prec. by alcohol .....	.80	.15
Dextrose (grape sugar), chem. pure	1.50	.20
Diamidobenzol, meta (phenylenediamine hydrochlorate)		1.50
Diamond Ink, for etching on glass .....		.50
Diastase of Malt		1.30
Didymium, metal, powd .. Grm.,	\$9.00	
Didymium Carbonate .. Grm.,	.60	
Didymium Chloride .. Grm.,	.60	
Didymium Nitrate .. Grm.,	.60	
Didymium Oxide .. Grm.,	.60	
Didymium Sulphate .. Grm.,	.60	
Dimethyl-amido-azo-benzene		1.00
Dimethylaniline, pure	1.00	.20
Dinitrobenzene (dinitrobenzol), com'l .....	.75	.15
Dinitrobenzene, pure .....		.30
Diphenylamine, cryst., chem. pure .....		.25
Diphenylamine Sulphate, chem. pure .....		.30
Diphenylamine Hydrochlorate, chem. pure .....		.40
Distilled Water .. Gal.,	\$0.15	
Dutch Metal .. Book,	.15	
Emery, finely powdered .....	.15	
Erbium, metal .. Grm.,	\$7.50	
Ether Acetic (ethyl acetate) .....	.75	
Ether Acetic, twice rectif	2.00	
Ether Acetic, anhydrous	2.50	

	Lbs.	Ozs.
Ether, conc. (sulphate), 1890	1-lb. cans, incl. \$0.90	
Ether, conc. (sulphuric), 1890	5-lb. cans, incl. .85	
Ether, conc., Squibb's	$\frac{1}{2}$ Kits, \$1.50	
Ether, washed (sulphuric), 1880	1-lb. cans, incl. .80	
Ether, washed (sulphuric), 1880	5-lb. cans, incl. .75	
Ether, anhydrous, dist. over Sodium	2.00	
Ether Petroleic (rhigolene)	Pint, \$0.75	
Eugenol		\$0.35
Feldspar, powd. . . . .	.10	
Fibrin, from blood . . . . .		.40
Fire Clay . . . . .	.05	
Fire Clay	in 100-lb. sacks, \$0.50	
Fluorescein . . . . .		.60
Fluorspar (calcium fluoride), powd. . . . .	.10	
Special prices in large lots.		
Flux Black, Plattner's	1.75	.20
Flux Black, substitute . . . . .	.40	.10
Flux Bismuth	3.00	.25
Flux, Richards' . . . . .	.20	
Flux, for lead assays. (See Lead Flux.)		
Formaldehyde (40 %) solution	1-lb. bottle, incl. .35	
Formaldehyde (40 %) solution	5-lb. bottle, incl. .30	
Fuller's Earth . . . . .	.10	
Furfurol . . . . .		.80
Fusel Oil (alcohol amylc)	Gal., \$2.50	
Gasoline, 74°	10 gal. cases, incl., net, 3.00	
Gelatine, finest white, "Gold Label" . . . . .	.80	
Glass, powd. . . . .	.10	
Glass Wool, finest grade	8.00	.60
Glucose	Gal., \$1.00	.20
Glycerin, pure	in 50-lb. cans, .25	.35
Glycerin, chem. pure . . . . .	.50	
Gold, metal, chem. pure, prec., powd.	Grm., \$1.75	
Gold, metal, foil and sheet	Grm., .85	24.00
Gold, metal, leaf	Book, .50	
Gold Bromide	15 grains, 1.75	
Gold Chloride	15 grains, .50	13.00
Gold Chloride and Sodium	15 grains, .30	7.00
Gold Cyanide	15 grains, 2.00	
Grape Sugar, com'l, dry . . . . .	.15	

	Lbs.	Ozs.
Grape Sugar, chem. pure (Dextrose)	\$1.50	\$0.20
Graphite, con'l, powd. ....	.20	
Graphite, pure, finely powd. ....	.70	.15
Gum Arabic, best .....	.60	
Gun Cotton (pyroxylin), soluble .....		.25
Gypsum .....	.10	
Haematite (reddle) .....	.20	
Haematoxylin	$\frac{1}{8}$ oz., \$0.30	1.75
Heavy Spar (barytes) .....	.10	
Heliotropin .....		.50
Hide Powder	2.00	
Hydrogen Peroxide, Mallinckrodt's .....	.40	
Hydrogen Peroxide, Marchand's .....	.90	
Hydrogen Peroxide, U. S. P. ....	.35	
Hydroquinone	2.00	.20
Indigo .....	.90	.10
Indigo Carmine, dry .....		.40
Indigo Solution .....	.50	.10
Indigotin, cryst., chem. pure	$\frac{1}{8}$ oz., \$0.60	
Indium, metal	15 grains, 8.00	
Indium Chloride	15 grains, 8.00	
Indium Oxide	15 grains, 9.00	
Indium Sulphate	15 grains, 8.00	
India Rubber	2.00	.20
Infusorial Earth .....	.20	
Iodine, crude	5.00	.40
Iodine, resublimed, U. S. P.	6.00	.50
Iodine, bromide .....		.60
Iodine, chloride solution .....		.70
Iodoform .....		.50
Iridium, metal, fused	Grm., \$2.50	
Iridium Chloride (sesqui)	Grm., 1.00	
Iridium Oxide (sesqui)	Grm., 1.25	
Iridium Sulphate	Grm., 1.20	
Iron, metal, filings, coarse .....	.10	
Iron, metal, filings, fine .....	.10	
Iron, metal, powder, by alcohol .....	.35	.10
Iron, metal, powder, chem. pure	2.00	.20
Iron Wire, pure, for standardizing	1.50	.15
Iron, reduced by hydrogen .....	.75	.15

	Lbs.	Ozs.
Iron Acetate, chem. pure	1.25	.20
Iron Arsenate (ous) . . . . .		.20
Iron Arsenite (ic) . . . . .		.20
Iron Carbonate, precip. . . . .	.20	
Iron Carbonate (ic), chem. pure . . . . .	.40	
Iron Carbonate (ous), chem. pure . . . . .	.40	
Iron Chloride (ferric), cryst., pure. . . . .	.50	.15
Iron Chloride (ferrous protochloride), pure, dry . . . . .	.70	.15
Iron Citrate, in scales, U. S. P . . . . .	.75	.15
Iron Ferrocyanide, blue, insoluble (prussian blue) . . . . .	.75	.15
Iron Ferrocyanide, blue, soluble . . . . .	.75	.15
Iron Hydrate (ic), chem. pure . . . . .	.75	.15
Iron Hypophosphite	2.00	.25
Iron Iodate . . . . .		.75
Iron Iodide (ferrous) . . . . .		.50
Iron Nitrate (ferric), cryst., pure	1.20	.20
Iron Malate, in scales		1.20
Iron Oxalate (ferric), in scales	2.00	.20
Iron Oxalate (ferrous)	1.70	.20
Iron Oxide, black. . . . .	.50	
Iron Oxide, brown, pure . . . . .	.75	.15
Iron Oxide (ous), chem. pure. . . . .	.90	.15
Iron Oxide, red. . . . .	.15	
Iron Oxide, red, saccharated, soluble . . . . .	.70	.15
Iron Oxide, chem. pure	2.00	.25
Iron Perchloride. . . . .	.50	.15
Iron Persulphate . . . . .	.50	.15
Iron Phosphate (ferric), soluble.	1.80	.15
Iron Phosphate (ferrous), precip. . . . .	.60	.10
Iron Protosulphate. (See Iron Sulphate, ferrous.)		
Iron Pyrophosphate, U. S. P. . . . .	.70	.15
Iron Sesquichloride, cryst., pure . . . . .	.50	.15
Iron Sulphate (ferric), normal (persulphate). . . . .	.50	.15
Iron Sulphate (ferrous) (copperas) . . . . .	.05	
Special quotation in quantities.		
Iron Sulphate (ferrous), pure, crystals. 5-lb. tins, \$0.12	.15	
Iron Sulphate (ferrous), chem. pure, prec. by alcohol . . . . .	.45	.15
Iron Sulphide, in lumps . . . . .	.15	
Special quotations on large quantities.		
Iron Sulphide, in sticks . . . . .	.20	

	Lbs.	Ozs.
Iron Sulphide, Merck's Reagent	\$0.40	
Iron Tannate	2.50	\$0.30
Iron Tartrate (ferric), in scales .....		.25
Iron Tartrate (ferrous) .....		.25
Iron Trichloride, cryst., pure .....	.50	.15
Iron and Ammonium Citrate, brown, scales .....	.70	.15
Iron and Ammonium Oxalate, cryst.	1.00	.15
Iron and Ammonium Sulphate, pure (ferrous) .....	.60	.15
Iron and Ammonium Sulphate, pure (ferric) .....	.60	.15
Iron and Potassium Oxalate, cryst.	1.00	.20
Kaolin .....	.10	

Special quotations in quantities.

Lacmoid, in scales, chem. pure .....		.80
Lanthanum, metal, powd. Grm., \$10.00		
Lanthanum Chloride	Grm., .50	
Lanthanum Nitrate	Grm., .40	
Lanthanum Sulphate	Grm., .50	
Lead Foil or Sheet. ....		.15
Lead, metal, chem. pure, in bars	Bulk	.15

Special quotation in quantities.

Lead, metal, granulated (silver lead)	Bulk	.15
Lead, metal, granulated	25 and 50-lb. sacks	.12

Note:—This lead is made from our absolutely chem. pure lead and is guaranteed to contain 0.225 troy oz. of silver, actual weight per ton of lead; consequently if about 40 grammes of it are taken in assaying 1-10 A. T. of ore, the silver assay is accordingly increased about 3 troy oz. per ton of ore..

Lead, metal, granulated, absolutely chem. pure	Bulk	.15
Lead, metal, granulated, absolutely chem. pure	25 and 50-lb. sacks	.12
Lead, metal, foil, strictly chem. pure, for standardizing .....		.25 .10
Lead, metal, powder, chem. pure		1.00 .15
Lead Acetate, white (sugar of lead), com'l .....		.20
Lead Acetate, chem. pure	Carton	.40 .10
Lead Acetate, chem. pure, basic .....		.80 .15
Lead Bromide .....		.25
Lead Carbonate, basic, com'l (white lead) .....		.10
Lead Carbonate, chem. pure .....		.70 .15
Lead Chloride, chem. pure .....		.70 .15
Lead Chromate, chem. pure		1.00 .15
Lead Chromate, chem. pure, fused		1.10 .15

	Lbs.	Ozs.
Lead Cyanide.....		\$0.25
Lead Ferrocyanide.....		.25
Lead Hyposulphite (thiosulphate).....	\$0.60	.10
Lead Iodide.....		.40
Lead Molybdate.....		.60
Lead Nitrate, com'l.....	.20	
Lead Nitrate, chem. pure.....	.40	.10
Lead Oxalate.....	1.25	.20
Lead Oxide (litharge). (See Lead Protoxide.)		
Lead Oxide, chem. pure.....	1.20	.20
Lead Peroxide (binoxide).....	.50	.15
Lead Peroxide, chem. pure.....	1.20	.20
Lead Phosphate, pure.....	2.00	.25
Lead Protoxide (litharge), for assaying silver, uniform grade.....	.10	
Lead Protoxide (litharge), for assaying silver, uniform grade, in 25 and 50-lb. kegs.....	.08	
Lead Protoxide, chem. pure.....	.15	
Lead Protoxide, chem. pure.....in 25 and 50-lb. sacks	.12	
Lead Protoxide, anhydrous, chem. pure.....	1.20	.20
Lead Sesquioxide (red lead).....	.10	
Lead Sulphate, chem. pure.....	.50	.12
Lead Sulphide, pure.....	1.00	.15
Lead Sulphite.....	1.00	.15
Lead Sulphocyanate.....	1.50	.20
Lead Tartrate.....	1.50	.20
Lead Flux, No. 1, Plattner's.....	.20	
5 parts Carbonate Potash.		
6½ parts Bicarbonate Soda.		
2½ parts Flour.		
2½ parts Borax Glass, ground.		
Lead Flux, No. 2.....	.20	
6½ parts Carbonate Potash.		
5 parts Bicarbonate Soda.		
1 part Flour.		
2½ parts Borax Glass, ground.		
Lead Flux, No. 3.....	.20	
2 parts Carbonate Potash.		
2 parts Bicarbonate Soda.		
1 part Flour.		
1 part Borax Glass, ground.		

	Lbs.	Ozs.
Lead Flux, No. 4	\$0.17	
2 parts Carbonate Potash.		
2 parts Bicarbonate Soda.		
1 part Flour.		
1 part Borax, powdered.		
(Above Fluxes in lots of 100 lbs. and over, 5 cents less per lb.)		
Lime (calcium oxide) .....	.10	
Litharge. (See Lead Protoxide.)		
Lithium, metal	Grm., \$6.00	
Lithium Acetate.....	3.00	\$0.30
Lithium Benzoate	2.00	.20
Lithium Bichromate	4.00	.40
Lithium Bromide	3.00	.35
Lithium Carbonate	2.50	.30
Lithium Chloride.....	3.00	.35
Lithium Citrate	2.00	.25
Lithium Iodide .....		.60
Lithium Nitrate	3.50	.35
Lithium Oxide, hydrated .....		.55
Lithium Phosphate .....		.40
Lithium Sulphate, cryst. ....		.35
Litmus, com'l, in cubes .....	.30	.10
Litmus, purified .....		.35
Litmus, red .....		.20
Litmus Paper	Sheet, \$0.05; quire, \$0.60	
Loadstone.....	.50	.10
Magnesia Oxide, powdered .....	.10	
Magnesium, metal, ribbon .....		.60
Magnesium, metal, powder	1-lb. cans	3.00 .30
Magnesium Acetate	1.00	.15
Magnesium Bromide .....		.35
Magnesium Carbonate, in cubes .....	.25	
Magnesium Carbonate, nat., powder .....	.10	
Magnesium Carbonate, chem. pure.....	1.00	.15
Magnesium Chloride, cryst. ....	.30	
Magnesium Chloride, cryst., chem. pure.....	.40	.12
Magnesium Chloride, fused, chem. pure.....	.60	.15
Magnesium Citrate, chem. pure	1.40	.20
Magnesium Hypophosphite	2.50	.25
Magnesium Iodide.....	6.50	.70

	Lbs.	Ozs.
Magnesium Nitrate, pure	\$0.80	\$0.15
Magnesium Oxide (calcined), light 1-lb. tins	.60	.10
Magnesium Oxide, chem. pure	1.20	.20
Magnesium Phosphate, pure . . . . .	.80	.15
Magnesium Sulphate, com'l (Epsom salt). . . . .	.10	
Magnesium Sulphate, cryst., chem. pure Carton	.25	
Magnesium Sulphate, dry, chem. pure Carton	.30	
Magnesium Sulphite . . . . .	.60	.15
Magnesium Tartrate	2.50	.35
Maltose	1.50	.20
Manganese, metal, fused, pure . . . . .		.80
Manganese Acetate	1.10	.15
Manganese Borate . . . . .	.40	.10
Manganese Carbonate, pure . . . . .	.75	.15
Manganese Chloride, cryst., pure. . . . .	.50	.12
Manganese Dioxide. (See Manganese Peroxide.)		
Manganese Hypophosphite. . . . .		.25
Manganese Iodide . . . . .		.75
Manganese Nitrate, pure.	1.50	.20
Manganese Oxide (manganic) (Mn_2O_3)	4.00	.35
Manganese Peroxide, black (dioxide), natural, powd. . . . .	.10	
Manganese Peroxide, black (dioxide), natural, granular . . . . .	.15	
Manganese Peroxide, black (dioxide), chem. pure	1.00	.15
Manganese Phosphate	2.50	.25
Manganese Sulphate, cryst., pure . . . . .	.60	.15
Manganese Tartrate.	4.00	.40
Marble, pieces . . . . .	.10	
Mercury, metal . . . . .	.80	.10
Mercury, metal, flask, 75 lbs. Write for special quotations.		
Mercury, redistilled	1.10	.15
Mercury Acetate (mercurous)	3.50	.30
Mercury Acetate (mercuric).	3.00	.30
Mercury Arsenate . . . . .		.35
Mercury Arsenite . . . . .		.35
Mercury Bichloride (corrosive sublimate), com'l	1.00	.15
Mercury Bichloride (corrosive sublimate), powd	1.10	.15
Mercury Bichloride (corrosive sublimate), chem. pure, B. & A.	1.50	.20
Mercury Bichloride (corrosive sublimate), chem. pure, Merck's.	2.00	.25
Mercury Chloride (calomel)	1.20	.15
Mercury Chloride (calomel), cryst., chem. pure	1.75	.20

	Lbs.	Ozs.
Mercury Chromate (mercuric)	\$4.00	\$0.40
Mercury Cyanide, pure	4.00	.40
Mercury Iodide, red (mercuric)	5.00	.40
Mercury Iodide, yellow (mercurous)	4.50	.40
Mercury Nitrate (mercuric)	1.60	.25
Mercury Nitrate (mercurous)	1.60	.25
Mercury Oxide (mercurous), black	2.00	.25
Mercury Oxide (mercuric), red	1.30	.15
Mercury Oxide (mercuric), red, chem. pure.	1.75	.20
Mercury Oxide (mercuric), yellow, chem. pure	2.00	.20
Mercury Pernitrate	1.60	.25
Mercury Phosphate (mercuric) .....		.45
Mercury Phosphate (mercurous) .....		.45
Mercury Protochloride	1.20	.15
Mercury Sulphate, basic	1.20	.20
Mercury Sulphate (mercuric), chem. pure	1.80	.20
Mercury Sulphate (mercurous), chem. pure	2.00	.25
Mercury Sulphide, black .....	.90	.15
Mercury Sulphide, red (mercuric), powd., artificial cinnabar	1.60	.20
Mercury Sulphide, red (mercuric), cryst., artificial cinnabar	1.60	.20
Mercury Sulphocyanate (mercuric)	3.00	.30
Mercury Tannate (mercurous)	3.00	.30
Metadiamidobenzol .....		.50
Metal, fusible at 70°, Wood's	3.50	.30
Metal, fusible at 94°, Rose's	3.50	.30
Methyl Orange Indicator .....		.40
Metol, Hauff's .....		.75
Mica, ground .....	.25	
Microcosmic Salt .....	.80	.15
Milk Sugar, cryst .....	.40	
Milk Sugar, powder .....	.30	
Minium .....	.15	
Molybdenum, metal	Grm., \$0.30	
Molybdenum Oxide (mous)		1.25
Molybdenum Sulphide		1.25
Naphthaline, pure	Carton .50	.15
Naphtol Alpha, recryst	2.00	.30
Naphtol Beta, resublimed	Carton 1.00	.15
Naphtol Nitroso-Beta	12.00	.90
Naphthylamine Alpha, pure .....		.35

	Lbs.	Ozs.
Naphthylamine, chloride, alpha.....		\$0.25
Naphthylamine, sulphate, alpha .....		.30
Nessler's Solution.....	\$1.00	.20
Nickel, metal, in cubes	1.20	.15
Nickel, metal, chem. pure		1.00
Nickel, sheet .....		.20
Nickel, wire .....		.20
Nickel Acetate	1.80	.20
Nickel Carbonate	2.00	.20
Nickel Chloride	1.50	.20
Nickel Cyanide .....		.50
Nickel Nitrate, pure	1.00	.15
Nickel Oxide, black, com'l.	1.50	.20
Nickel Oxide, black, chem. pure	6.00	.60
Nickel Oxide, green, chem. pure	1.80	.20
Nickel Phosphate.....		.85
Nickel Sulphate, com'l. ....	.40	
Nickel Sulphate, chem. pure	2.00	.25
Nickel and Ammonium Chloride .....	.80	.15
Nickel and Ammonium Sulphate .....	.25	
Nickel and Ammonium Sulphate, chem. pure .....	.75	.15
Nitre. (See Potassium Nitrate.)		
Nitrobenzol (oil mirbane) .....	.30	
Nitrosobetanaphthol	12.00	.90
Nutgalls. ....	.40	
Nutgalls, powd .....	.50	
Oil Aniline, pure.....	.75	.15
Oil Bergamot	3.50	.30
Oil Cedar	1.20	.20
Oil Cloves	2.00	.20
Oil Fusel, Gal., \$2.50		
Oil Lard, for blow pipe lamps, Gal., 1.50		
Oil Linseed, Gal., 1.00		
Oil Olive, Gal., 2.50	.50	
Oil Origanum .....		.30
Oil Turpentine, Gal., 1.00	.25	
Oil Turpentine, redistilled .....	.50	
Orpiment, powder .....	.40	
Ozokerite .....	.25	
Palladium, metal..... Grm., \$1.50		

	Lbs.	Ozs.
Palladium, metal, black (Mohr).....Grm., 1.50		
Palladium Asbestos, 5 %.....Grm., .50		
Palladium Chloride, cryst.....Grm., 1.50		
Paraffine, pure.....	\$0.20	
Paraldehyde.....	1.75	\$0.20
Pearl Ash (potassium carbonate).....	.15	
Peptone, dry, Witte's.....100 grm.	1.25	
Petrolatum.....	.25	
Phenacetolin Indicator..... $\frac{1}{2}$ oz., \$0.25		1.50
Phenolphthalein, pure.....	6.00	.50
Phenylenediamine Meta Hydrochlorate (metadiamidobenzol).....		1.00
Phenylhydrazine, pure.....		.40
Phenylhydrazine Hydrochlorate.....		.40
Phloroglucin.....Grm., \$0.30		3.50
Phosphorus, red, amorphous.....	1.60	.25
Phosphorus, yellow, in sticks.....1-lb. cans	1.20	
Phosphorus, yellow, in sticks..... $\frac{1}{2}$ -lb. cans	1.40	
Phosphorus, yellow, in sticks..... $\frac{1}{4}$ -lb. cans	1.60	
Phosphorus, yellow, in sticks.....1-oz. cans		.25
Phosphorus Oxychloride.....	1.50	.30
Phosphorus Pentachloride.....	1.50	.30
Phosphorus Pentoxide (acid phosphoric, anhydride).....Bottle, \$0.20	1.25	.25
Phosphorus Trichloride.....	1.50	.30
Pipe Clay.....	.10	
Plaster Paris (calcium sulphate), com'l.....	.10	
Platinum, metal, foil and wire.....Grm., \$0.90		
Platinum, metal, manufactured utensils. (See Apparatus list.)		
Platinum, metal, black precip. (Pt. Mohr.).....Grm., 1.10		
Platinum, metal, sponges.....Each, .35		
Platinum Bichloride (platinic chloride), cryst., chem. pure.....		12.00
Platinum Bichloride (platinic chloride).....Grm., \$0.60		
Platinum Bichloride, 5 % solution.....		.80
Platinum and Hydrogen Chloride (chlor, platinic acid).....Grm., \$0.60		12.00
Platinum and Potassium Chloride.....Grm., .60		12.00
Platinum and Potassium Cyanide, cryst.....Grm., 1.50		
(All other Platinum compounds to order at lowest prices.)		
Plumbago. (See Graphite.)		
Potassium, metal.....net, incl. tin and vial		1.35
Potassium, metal.....in $\frac{1}{2}$ oz.		1.50
Potassium, metal.....in $\frac{1}{4}$ oz.		1.80

	Lbs.	Ozs.
Potassium, metal. in $\frac{1}{8}$ oz.		\$2.40
Potassium Acetate.	\$0.40	.10
Potassium Acetate, chem. pure. ....	.75	.15
Potassium Antimoniate.	1.00	.15
Potassium Arsenate, pure.	1.00	.15
Potassium Arsenite, pure. ....	.90	.15
Potassium Bicarbonate, cryst. ....	.20	
Potassium Bicarbonate, powd. ....	.20	
Potassium Bicarbonate, chem. pure. ....	.50	.10
Potassium Bichromate, com'l, cryst. ....	.20	
Potassium Bichromate, com'l, powd. ....	.30	
Potassium Bichromate, chem. pure. Carton	.60	.10
Potassium Binoxalate (salt of sorrel) ....	.30	
Potassium Binoxalate, chem. pure. ....	.65	.15
Potassium Bisulphate, cryst., chem. pure. ....	.60	.15
Potassium Bisulphate, fused, chem. pure. ....	.75	.15
Potassium Bisulphite, chem. pure.	1.00	.15
Potassium Bitartrate, com'l (argols) ....	.15	
Potassium Bitartrate, powder, white (cream of tartar). ....	.40	
Potassium Bitartrate, chem. pure. ....	.85	.15
Potassium Borotartrate. ....		.25
Potassium Bromate, chem. pure.	2.50	.30
Potassium Bromide. ....	.50	.15
Potassium Bromide, chem. pure.	1.20	.15
Potassium Carbonate, gran. (pearl ash) ....	.15	
Potassium Carbonate, gran. (pearl ash) in cans of 70 lbs.	.11	
Potassium Carbonate, gran. In bbls., special quotation.		
Potassium Carbonate, chem. pure. ....	.50	.15
Potassium Carbonate, chem. pure, powd. ....	.60	.15
Potassium Caustic, com'l. 10-lb. tins, \$0.12	.15	
Potassium Caustic, white, purified, in sticks. ....	.50	.15
Potassium Caustic, pure, by alcohol, in sticks. ....	.70	.15
Potassium Caustic, strictly chem. pure.	2.00	.25
Potassium Chlorate, cryst. ....	.20	
Potassium Chlorate, powder. ....	.20	
Potassium Chlorate, cryst., chem. pure. Carton	.50	.10
Potassium Chlorate, powd., chem. pure. Carton	.50	.10
Potassium Chloride, pure. ....	.25	
Potassium Chloride, chem. pure. Carton	.40	.10
Potassium Chloroplatinite.		12.00

	Lbs.	Ozs
Potassium Chromate, com'l	\$0.40	
Potassium Chromate, chem. pure .....	.70	\$0.15
Potassium Citrate .....	.60	.15
Potassium Citrate, chem. pure	1.40	.20
Potassium Cobaltic Nitrite		1.50
Potassium Cyanate, pure .....		.75
Potassium Cyanide, fused, white (for mining), 30 %	1-lb. cans	.40
Potassium Cyanide, fused, white, 30 %	10-lb. cans	.35
Potassium Cyanide, granular, 55 % .....		.60
Potassium Cyanide, granular, 98 % .....		.80
Potassium Cyanide, chem. pure (domestic)	1-lb. cans	.60
Potassium Cyanide, chem. pure (domestic)	10-lb. cans	.45
Potassium Cyanide, chem. pure. In 100-lb. or 200-lb. cans, special quotation.		
Potassium Cyanide, chem. pure, Merck's, 98 to 100 %	1-lb. cans	.60
Potassium Cyanide, chem. pure absolutely		3.50
Potassium Ferricyanide (red prussiate of potash) .....		.70
Potassium Ferricyanide, chem. pure		1.25
Potassium Ferrocyanide (yellow prussiate of potash) .....		.35
Potassium Ferrocyanide, chem. pure .....		.70
Potassium Fluoride, chem. pure		1.50
Potassium Formate, chem. pure		2.50
Potassium Hydroxide. (See Potassium Caustic.)		
Potassium Hypophosphite, pure		2.00
Potassium Hyposulphite (thiosulphate), pure		2.00
Potassium Iodate		6.00
Potassium Iodide, pure		4.50
Potassium Iodide, chem. pure		5.50
Potassium Manganate, chem. pure .....		.75
Potassium Metabisulphite .....		.90
Potassium Molybdate .....		.50
Potassium Nitrate, cryst. ....		.12
(Special quotation in barrel lots.)		
Potassium Nitrate, granul .....		.12
(Special quotation in barrel lots.)		
Potassium Nitrate, cryst., chem. pure .....		.50
Potassium Nitrate, powder, chem. pure	Carton	.40
Potassium Nitrite, pure .....		.75
Potassium Nitrite, in sticks, chem. pure		1.25
Potassium Nitroprusside .....		.80
Potassium Oxalate, neutral, pure .....		.30

	Lbs.	Ozs.
Potassium Oxalate, chem. pure	\$0.60	\$0.15
Potassium Permanganate, small crystals .....	.25	
Potassium Permanganate, cryst., pure .....	.40	.10
Potassium Permanganate, chem. pure .....	.80	.15
Potassium Phosphate, chem. pure, monobasic	1.20	.15
Potassium Phosphate, chem. pure, dibasic	1.00	.15
Potassium Silicate Solution (water glass) .....	.30	.10
Potassium Silicate, dry, chem. pure	1.50	.20
Potassium Silico Fluoride, pure	2.00	.25
Potassium Stannate, pure	3.00	.30
Potassium Sulphate .....	.20	
Potassium Sulphate, chem. pure .....	.50	.15
Potassium Sulphide, fused (liver of sulphur) .....	.30	
Potassium Sulphide, chem. pure .....	.80	.15
Potassium Sulphite .....	.75	.15
Potassium Sulphite, chem. pure .....	.70	.15
Potassium Sulphocarbonate .....	.70	.15
Potassium Sulphocyanate, chem. pure	1.00	.15
Potassium Tartrate, chem. pure .....	.90	.15
Potassium Tetra-Oxalate	1.50	.20
Potassium Xanthogenate, pure	1.60	.20
Pumice Stone, lumps .....	.10	
Pumice Stone, powder .....	.10	
Putty Powder (tin oxide, gray) .....	.60	.10
Pyoktanin, blue		2.00
Pyoktanin, yellow		2.00
Pyrocatechin .....		.80
Pyroxlyn (gun cotton) .....		.25
Quartz, powdered .....	.10	
Quicksilver. (See Mercury.)		
Realgar, powder .....	.25	
Reddle, in sticks, for marking crucibles, etc. .....	.20	
Resorcin .....		.25
Rochelle Salt (sodium and potassium tartrate), powd. ....	.35	.10
Rosaniline, pure .....		.50
Rosaniline Acetate .....		.50
Rosaniline Hydrochloride .....		.50
Rosin	10	
Rubidium, metal, pure	1-10 grm.,	\$1.50
Rubidium Carbonate	Grm.,	.50

	Lbs.	Ozs.
Rubidium Iodide.....		\$1.50
Rubidium Sulphate.....Grm., \$0.50		
Ruthenium, metal.....Grm., 5.00		
Ruthenium Chloride, cryst.....Grm., 2.50		
Ruthenium Oxychloride.....1½ grain, 1.75		
Saccharin (Garantose).....		.20
Sal Ammoniac.....	\$0.20	
Sal Soda.....	.05	
Salt, in sacks.....	.03	
Saltpetre.....	.12	
Sea Sand.....	.10	
Sealing Wax, best, red, extra No. 6.....	.30	
Selenium, metal, pure, in sticks.....		2.00
Shellac, orange.....	.80	
Silica, pure (acid silicic).....	.50	.15
Silica, powdered, com'l.....	.05	
(Special prices in quantities.)		
Silicon, metal, cryst.....Grm., \$0.30		
Silicon, metal, amorphous.....½ oz., .40		
Silicon Chloride-tetra.....per 10-grm. tube, 1.00		
Silver, metal, foil, chem. pure.....		1.00
Silver, metal, precipitated.....		2.00
Silver, metal, leaf.....Per book, \$0.15		
Silver, metal, granulated, chem. pure.....		.75
Silver Acetate.....		1.75
Silver Bromide.....		1.50
Silver Carbonate.....		1.75
Silver Chloride.....		1.00
Silver Cyanide.....		1.50
Silver Iodide.....		1.50
Silver Nitrate, pure, cryst.....	7.00	.80
Silver Nitrate, chem. pure.....	10.00	.80
Silver Nitrate, Merck's Reagent.....	20.00	1.50
Silver Nitrite.....		2.00
Silver Oxide.....		1.50
Silver Phosphate.....		2.00
Silver Sulphate.....		1.40
Soda Ash (sodium carbonate).....	.10	
Soda Caustic, in drums.....	.05	
Soda Lime, granul.....	.80	.15

	Lbs.	Ozs.
Sodium, metal Tins	\$1.25	\$0.35
Sodium, metal in $\frac{1}{4}$ lb.	1.40	
Sodium, metal in $\frac{1}{4}$ lb.	1.60	
Sodium Amalgam	1.50	.20
Sodium Acetate . . . . .	.20	
Sodium Acetate, chem. pure, cryst. . . . .	.40	.15
Sodium Acetate, chem. pure, fused . . . . .	.80	.15
Sodium Arsenate . . . . .	.25	
Sodium Arsenate, pure . . . . .	.60	.15
Sodium Arsenite . . . . .	.20	
Sodium Arsenite, pure . . . . .	.70	.15
Sodium Biborate. (See Borax.)		
Sodium Biborate, cryst., chem. pure . . . . .	.50	.15
Sodium Biborate, powd., chem. pure . . . . .	.50	.15
Sodium Bicarbonate, com'l . . . . .	.10	
Sodium Bicarbonate in 112-lb. kegs	.03	
Sodium Bicarbonate, cryst., chem. pure Carton	.25	.10
Sodium Bicarbonate, powd., chem. pure Carton	.25	.10
Sodium Bichromate, com'l . . . . .	.25	
Sodium Bichromate, chem. pure . . . . .	.60	.15
Sodium Bisulphate, cryst., chem. pure . . . . .	.50	.15
Sodium Bisulphate, fused, chem. pure . . . . .	.60	.15
Sodium Bisulphite, dry, com'l . . . . .	.30	.15
Sodium Bisulphite, dry, pure . . . . .	.60	.15
Sodium Bitartrate	1.00	.15
Sodium Bromate	1.20	.20
Sodium Bromide . . . . .	.60	.15
Sodium Carbonate, cryst. (sal soda) . . . . .	.10	
(Special quotation in barrels.)		
Sodium Carbonate, pure, cryst 1-lb. cans	.20	
Sodium Carbonate, pure, cryst 5-lb. cans	.15	
Sodium Carbonate, dry, for assaying . . . . .	.20	
Sodium Carbonate, dry, for assaying in kegs of 130 lbs.	.10	
Sodium Carbonate, calcined, for assaying in kegs of 100 lbs.	.08	
Sodium Carbonate, cryst., chem. pure Bottle	.35	.15
Sodium Carbonate, anhydrous, chem. pure Carton	.30	.10
Sodium Carbonate, fused, chem. pure	1.00	.15
Sodium Caustic, 98 %, granular 10-lb. cans	.15	
Sodium Caustic, white, purified, in sticks . . . . .	.40	.15
Sodium Caustic, pure, by alcohol, in sticks . . . . .	.70	.15

	Lbs.	Ozs.
Sodium Caustic, from sodium, chem. pure.	\$2.25	\$0.25
Sodium Caustic with Lime (soda lime), granul . . . . .	.60	.15
Sodium Chlorate, chem. pure . . . . .	.70	.15
Sodium Chloride, cryst., chem. pure. Carton	.30	.10
Sodium Chloride, fused, chem. pure . . . . .	.80	.15
Sodium Chromate, chem. pure	1.20	.20
Sodium Citrate . . . . .	.75	.15
Sodium Cyanide 1-lb. bottle	.65	
Sodium Cyanide 10-lb. tins	.50	
Sodium Ferrocyanide, pure . . . . .	.90	.15
Sodium Fluoride, pure . . . . .	.80	.15
Sodium Formate, pure	1.50	.20
Sodium Hypophosphite	1.00	.15
Sodium Hyposulphate. ....		.40
Sodium Hyposulphite (thiosulphate), cryst., com'l . . . . .	.10	
Sodium Hyposulphite in 112-lb. kegs	.04	
Sodium Hyposulphite, chem. pure. in bottles	.35	.15
Sodium Iodate	7.00	.80
Sodium Iodide	5.00	.50
Sodium Metaphosphate. ....		.25
Sodium Methylate, dry, pure . . . . .		.75
Sodium Molybdate.	4.00	.40
Sodium Nitrate, granul., com'l . . . . .	.10	
Sodium Nitrate, chem. pure . . . . .	.40	.15
Sodium Nitrite, com'l . . . . .	.25	
Sodium Nitrite, cryst., chem. pure . . . . .	.50	.15
Sodium Nitrite, in sticks, chem. pure	1.00	.15
Sodium Nitroprussiate . . . . .		.65
Sodium Oleate	2.00	.20
Sodium Oxalate, chem. pure . . . . .	.80	.15
Sodium Permanganate . . . . .	.40	
Sodium Peroxide 1-lb. cans	1.00	
Sodium Peroxide 10-lb. cans	.80	
Sodium Phosphate, cryst. (di-sodic phosphate) . . . . .	.15	
Sodium Phosphate, cryst., chem. pure . . . . .	.40	.15
Sodium Phosphate, dry, chem. pure . . . . .	.70	.15
Sodium Phosphate, tribasic, chem. pure	1.10	.15
Sodium Phosphite . . . . .		.40
Sodium Phosphomolybdate		1.60
Sodium Phosphotungstate . . . . .		.60

	Lbs.	Ozs.
Sodium Plumbate	\$1.50	\$0.20
Sodium Pyrophosphate, cryst., pure .....	.60	.15
Sodium Selenate		2.50
Sodium Silicate, dry .....	.15	
Sodium Silicate, solution (water glass)	Bottle, \$0.10	.10
Sodium Silicate, cryst., pure	1.00	.15
Sodium Silico Fluoride	1.00	.15
Sodium Stannate, pure .....	.80	.15
Sodium Sulphate, com'l (Glauber salts) .....	.10	
Sodium Sulphate, cryst., chem. pure .....	.30	.15
Sodium Sulphate, dry, chem. pure	Carton	.35 .10
Sodium Sulphide, cryst. in 400-lb. bbls.	.05	
Sodium Sulphide, cryst., pure .....	.50	.15
Sodium Sulphide, fused, conc. ....	.40	.15
Sodium Sulphide, fused, pure. ....	.70	.15
Sodium Sulphite, cryst. 1-lb. cans	.15	
Sodium Sulphite, cryst. 5-lb. cans	.12	
Sodium Sulphite, recryst, pure .....	.30	
Sodium Sulphite, dry, powder	1-lb. cans	.25
Sodium Sulphite, dry, powder	5-lb. boxes	.20
Sodium Sulphite, cryst., pure	Bottle	.30 .15
Sodium Sulphite, dry, pure	Carton	.35 .10
Sodium Sulphocyanate, cryst., pure .....		.25
Sodium Tartrate, cryst., pure .....	.90	.15
Sodium Tungstate, pure	1.50	.20
Sodium Uranate (uranium yellow) .....		.50
Sodium Urate .....		.60
Sodium Xanthogenate .....		.25
Sodium and Ammon. Phosphate (microcosmic salt), chem. pure .....	.80	.15
Sodium and Potassium Tartrate, cryst. (Rochelle salts) .....	.35	
Sodium and Potassium Tartrate, powd. (Rochelle salts) .....	.35	
Sodium and Potassium Tartrate, chem. pure .....	.60	.15
Sponges, for laboratory use	lb. \$0.50 to \$2.50	
Stannum. (See Tin.)		
Stearine .....	.25	
Stibium. (See Antimony.)		
Starch, com'l. ....	.15	
Starch, Iodized .....		.35
Starch, Soluble, Zulkowsky's .....	.30	
Strontium, metal, from amalgam	1-10 grm., \$0.75	

	Lbs.	Ozs.
Strontium, metal, by electrolysis. 1-10 grm.,	1.50	
Strontium Acetate	\$1.60	\$0.20
Strontium Carbonate, com'l .....	.40	
Strontium Carbonate, chem. pure .....	.60	.15
Strontium Chloride, com'l .....	.30	.10
Strontium Chloride, chem. pure .....	.70	.15
Strontium Chromate .....		.25
Strontium Nitrate, com'l .....	.20	
Strontium Nitrate, chem. pure .....	.70	.15
Strontium Oxide, hydrated, cryst., pure	1.00	.15
Strontium Oxide, chem. pure	2.00	.25
Strontium Sulphate, chem. pure .....	.60	.15
Sulphur, in rolls (brimstone) .....	.10	
(Special prices in quantities.)		
Sulphur Flour, sublimed (flowers of sulphur) .....	.10	
Sulphur, washed. ....	.20	
Sulphur, precipitated, pure .....	.30	
Sulphur, cryst., pure .....	.50	.15
Sulphur Chloride	1.25	.25
Talcum Powder .....	.10	
Tannin. (See Acid Tannic.)		
Tellurium, metal, powder	Grm., \$0.50	
Tellurium, metal, in sticks.	Grm., .60	
Test Papers, blue and red litmus and turmeric:		
In small books.	Each, \$0.05; doz.,	.50
In sheets.	Each, .05; quire,	.60
Thallium, metal	Grm., .20	
Thallium Acetate	Grm., .35	
Thallium Bromide	Grm., .35	
Thallium Carbonate	Grm., .35	
Thallium Chloride	Grm., .35	
Thallium Iodide	Grm., .50	
Thallium Nitrate	Grm., .35	
Thallium Oxide (thallic)	Grm., .35	
Thallium Oxide (thallous)	Grm., .35	
Thallium Sulphate	Grm., .30	
Thorium, metal	1-10 grm., 2.50	
Thorium Oxide		2.00
Thorium Nitrate .....		.75
Thorium Sulphate		1.80

	Lbs.	Ozs.
Thymol, pure	\$3.00	\$0.30
Tin, metal, in bars .....	.80	.10
Tin, metal, foil, s. c. tobacco foil .....	.25	
Tin, metal, foil, thin tissue .....	.40	
Tin, metal, granulated, com'l (mossy) .....	.70	.10
Tin, metal, granulated, pure, B. & A.'s .....	.80	.10
Tin, metal, granulated, fine, pure, Merck's	1.00	.15
Tin, metal, powdered, pure, B. & A.'s .....	.80	.10
Tin, metal, in sticks, pure, B. & A.'s .....	.80	.10
Tin Bichloride, fuming (tetrachloride)	2.00	.45
Tin Chloride (stannous chloride) protochloride, chem. pure .....	.70	.15
Tin Chloride (stannic chloride), chem. pure .....	.70	.15
Tin Oxide, white (stannic) .....	.75	.15
Tin Oxide, white, pure (stannic)	1.00	.15
Tin Oxide, gray (putty powder) .....	.70	.15
Tin Oxide, black (stannous), pure .....		.25
Tin Sulphate (stannous)	1.25	.20
Tin Sulphide (stannous)	1.50	.20
Titanium, metal, powder	Grm., \$0.80	
Titanium Chloride	Grm., .25	
Titanium Oxide .....		.60
Toluidine (ortho) .....		.20
Toluidine (ortho), pure .....		.30
Toluidine (para) .....		.20
Toluidine (para), pure .....		.30
Toluidine Sulphate .....		.40
Toluol (toluene), com'l .....	.35	
Toluol (toluene), pure	1.00	.15
Tropæolin "OO" .....		.30
Tungsten, metal (wolfram), com'l	1.50	.20
Tungsten, metal, chem. pure .....		.80
Turmeric Powder .....	.25	
Turmeric Paper	Sheet, \$0.05; quire, \$0.60	
Uranium, metal, fused	Grm., .80	
Uranium Acetate	6.00	.55
Uranium Acetate, chem. pure	8.00	.75
Uranium Nitrate, chem. pure	5.50	.50
Uranium Oxide, black, pure	8.00	.80
Uranium Oxide, red (uranic acid), pure .....		.90
Uranium Oxide, yellow (sodium uranate) .....		.50

	Lbs.	Ozs.
Uranium Sulphate	\$8.00	\$0.80
Urea, cryst., pure (carbamide).....	3.50	.40
Urea Nitrate	3.50	.35
Urea Sulphate .....		.80
Vanadium, metal, powd. ....Grm.,	\$4.00	
Vanadium Sulphide.....Grm.,	.40	
Vanillin		1.00
Vaseline, yellow incl. can	.30	
Vaseline, white incl. can	.60	
Water Glass. (See Potassium Silicate or Sodium Silicate.)		
Wax, yellow .....	.50	.10
Wax, white.....	.60	.10
Wolfram, metal. (See Tungsten.)		
Wood Alcohol. (See Alcohol Methylic.)		
Xylol (xylene), pure .....	.60	.15
Yttrium, metal, powder .....Grm.,	\$7.50	
Yttrium Carbonate.....Grm.,	1.00	
Yttrium Nitrate.....Grm.,	.50	
Yttrium Oxide, anhydrous.....Grm.,	.60	
Zinc, metal (spelter), in slabs .....	.15	
Zinc, metal, shavings .....	.25	
Zinc, metal, sheet.....	.20	
Zinc, metal, sheet, cut in strips.....	.25	
Zinc, metal, sheet, chem. pure.....	.50	
Zinc, metal, in sticks, D. F. C. Co., pure.....	.50	.10
Zinc, metal, in sticks, Merck's, chem. pure .....	.60	.10
Zinc, metal, in sticks, pure, absolutely free from As .....	.45	.10
Zinc, metal, granulated (mossy) .....	.25	
Zinc, metal, granulated (mossy), pure .....	.45	.10
Zinc, metal, granulated, Merck's, chem. pure .....	.60	.10
Zinc, metal, powdered (dust) .....	.30	
Zinc, metal, powdered, Merck's chem. pure (coarse) .....	.60	.10
Zinc, metal, powdered, B. & A.'s, chem. pure, 20 or 30-mesh.....	.60	.10
Zinc, metal, shot, B. & A.'s, chem. pure.....	.60	.10
Zinc Acetate, cryst., pure .....	.60	.15
Zinc Carbonate, precip. ....	.30	.10
Zinc Carbonate, precip., pure.....	.60	.15
Zinc Chloride, com'l.....	.35	.15
Zinc Chloride, granul., pure .....	.50	.15
Zinc Chloride, fused, pure.....	.70	.15

	Lbs.	Ozs.
Zinc Cyanide, pure.....		.25
Zinc Iodide.....		.50
Zinc Nitrate, chem. pure.....	.60	.15
Zinc Oxide, by wet process, chem. pure.....	.50	.10
Zinc Oxide, chem. pure (free from Mn.) B. & A.'s.....	.60	.15
Zinc Oxide, by dry process.....	.20	
Zinc Phosphate, chem. pure.....	1.00	.15
Zinc Phosphide.....		.30
Zinc Sulphate (white vitriol), com'l.....	.10	
Zinc Sulphate, cryst., chem. pure.....	.25	.10
Zinc Sulphide, pure.....	1.70	.20
Zinc Sulphite.....		.20
Zirconium, metal.....	Grm., \$0.80	
Zirconium Nitrate, cryst.....		.80
Zirconium Oxide, anhydrous.....		1.60
Zirconium Sulphate.....		.80

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